A TREATISE ON THE THEORY AND MANAGEMENT OF ULCERS:

WITH A DISSERTATION ON

WHITE SWELLINGS OF THE JOINTS.

TO WHICH IS PREFIXED, AN

ESSAY ON THE CHIRURGICAL TREATMENT

OF

INFLAMMATION AND ITS CONSEQUENCES.

BY

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A NEW EDITION.

Ad utilitatem vitæ omnia consilia factaque nostra dirigenda sunt. TACIT.

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TO

PERCIVAL POTT, Esq.

F. R. S.

And Surgeon to St Bartholomew's Hoſpital, London.

Sir,

THE extenſive practice in which you have been long engaged, and the many uſeful improvements, founded on experience, which you have introduced into Surgery, deſervedly raiſe you to an eminent rank in your profeſſion.

This alone would induce any practitioner to court the honour of your protection to his firſt publication. But I might juſtly be accuſed of ingratitude, if I did not alſo ſeize this occaſion of publicly acknowledging my obligations to you, and of expreſſing my grateful ſenſe of the advantages which I enjoyed, when I had

an opportunity, not only of obſerving your practice in Surgery, but of becoming acquainted with the principles and opinions by which it was directed.

To render theſe ſentiments of my reſpect and gratitude as public as they are ſincere, was my only view in this addreſs. To ſay more, or to aſſume the uſual language of dedication, would, I know, be offenſive to you. Permit me to add, that I am, with great reſpect,

SIR,

Your obliged,

And obedient humble ſervant,

BENJAMIN BELL.

EDINBURGH, Jan. 20. 1784.

PRE-

PREFACE.

SINCE the commencement of the preſent century very conſiderable improvements have been made both in Medicine and in Surgery. The latter particularly, during the courſe of this period, ſeems to have been enriched with more real knowledge than it was ever before poſſeſſed of.

From this conſideration, it may poſſibly be alledged by ſome, that nothing new can now be offered on the ſubject of Surgery; and therefore, that any farther publication in that line muſt, in ſome meaſure, be ſuperfluous. Although much, however, has been written, and a great deal of light thrown upon the principal and more leading parts of Surgery; yet ſtill, from leſs attention having been paid to ſome of its branches, there are many chirurgical diſeaſes which are neither ſo well underſtood, nor ſo accurately treated, as we might otherwiſe have expected.

This ſeems, in a great meaſure, to proceed from the fame and reputation commonly acquired by ſucceſs in the more capital operations of Surgery; which having a greater effect with the public than the moſt ſucceſsful treatment of complaints not evidently of ſo much conſequence, has naturally prevented practitioners from paying to diſeaſes of this nature that attention which they certainly deſerve.

And in conſequence of this, though the real operative part of the profeſſion is, in general, carried to as great perfection as it may probably ever attain; yet Surgeons daily meet with diſorders which baffle all their ingenuity; by their failure in which, not only their own private reputation, but that of the art in general, ſuffers more than can be ever compenſated by any temporary eclat from an operation.

Many complaints might be enumerated, which have ſuffered from ſuch neglect; but none, it is preſumed, are in general leſs underſtood than ſome of thoſe which make the ſubjects of the following Eſſays. The theory and treatment of ulcers eſpecially, although a great deal has been written concerning them, are ſtill very defective: The deſcriptions given of them by authors are ſo tedious, and the diſtinctions ſo complicated and various, that, to a young practitioner particularly, it is no eaſy matter, either to comprehend rightly ſuch diſtinctions, or to apply the different remedies recommended for each.

Applications and medicines for ulcers, as pointed out by foreign writers eſpecially, are indeed ſo numerous, and frequently ſo contradictory, that even the oldeſt practitioners find it impoſſible to reconcile them to reaſon; but being generally recommended as in conſequence of experience, that circumſtance alone makes them too frequently adopted,

adopted, without being examined into; whereas a little attention would render it evident, that few publications on this ſubject, which have appeared for perhaps a century paſt, contain any thing new, the practice pointed out by all of them being in general merely copied by one author from another.

It was this, together with my meeting with more frequent diſappointments in the cure of ulcers than of any other complaint, which made me firſt pay more particular attention to their management. In conſequence of which, I found a much leſs complicated treatment than had been generally recommended, prove more efficacious, and a great deal of trouble ſaved thereby both to my patients and myſelf. How far the ſame methods may with others be found to ſucceed, I ſhall not pretend to ſay: This, however, I muſt obſerve, that there is nothing recommended in the following ſheets, but what has been confirmed by repeated experience.

I am far from imagining, however, that any thing I have to advance, either exhauſts the ſubject, or renders farther improvements in it unneceſſary. But whatever deficiences the preſent publication may labour under, this advantage may at leaſt be expected from it, that it will point out to others a material branch of Surgery, which for a long time has been very much neglected; a ſubject, too, that ſtill deſerves their attention,

and in which many uſeful improvements are yet probably to be made.

The treatiſe on inflammation and its conſequences was read, ſeveral years ago, before the College of Surgeons of this place; and as it was approved of by ſome of my friends, I now inſert it here with ſome additions and alterations: As many of the obſervations, too, relating to inflammation, apply with equal propriety to different circumſtances of ulcers, the conſideration of that ſubject could not, it was preſumed, be any where more properly introduced.

White ſwellings of the joints is another complaint, in the treatment of which we are exceedingly deficient; and I am ſorry to obſerve, that what I have to offer upon it does not tend ſo much to its farther elucidation as I could have wiſhed. But no regular account having ever been given of white ſwellings; and as I have had many opportunities, both of ſeeing ſuch complaints treated in the ordinary way, and of diſſecting the diſeaſed joints after amputation, I thought it might prove acceptable to the reader to have a full account of the practice employed in them, as well as of the obſervations I have made in diſſections. This I have endeavoured accurately to do; but having nothing altogether ſatisfactory to communicate on the method of cure, prolixity on any other part of the ſubject would not, I know, to the generality of practitioners, prove very acceptable.

I muſt here obſerve, however, that although nothing very material be pointed out in the treatment of the more inveterate ſpecies of white ſwelling; yet the diſtinction propoſed to be eſtabliſhed, of ſuch diſorders, into two diſtinct ſpecies, is a matter of no inconſiderable importance. Swellings of this nature are evidently produced by two ſets of very different cauſes; the one occaſioning a diſeaſe which will probably be always conſidered as incurable; and the other a complaint which may frequently not only be palliated, but even completely carried off. Practitioners ought therefore, in all ſuch diſorders, to be as accurate as poſſible in diſtinguiſhing the different cauſes which appear to have produced them; and not indiſcriminately to conſider every caſe of white ſwelling as incurable, and to proceed accordingly, as is generally done, to immediate amputation.

As the former editions of this work have met with a very favourable reception, I have conſidered it as a duty which I owe to the public to do all in my power to render this *third* edition of it as correct as poſſible: Much pains have therefore been beſtowed upon it; a good deal of new matter is now introduced; every late improvement relating to the ſubjects treated of is taken notice of; and to the whole a copious Index is added.

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CHI-

CHIRURGICAL ESSAYS.

PART I.

On INFLAMMATION and its Conſequences.

SECTION I.

Of the Symptoms and Cauſes of Inflammation.

AS Inflammation is, in many diſorders, and eſpecially in Wounds, Contuſions, and Ulcers, the moſt troubleſome ſymptom with which Surgeons have to contend, an inveſtigation of its cauſes,

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of the circumſtances attending it, and of the method of treatment beſt adapted to its removal, naturally occurs as an object of importance: And this is accordingly a ſufficient reaſon for its conſideration being introduced as one of the firſt articles in every chirurgical diſſertation.

Inflammation, it is well known, is a diſorder to which every organiſed part of the body is liable. But, as its attacks upon the internal parts are generally attended with ſymptoms, the treatment of which more properly belongs to the province of Medicine, we do not at preſent intend to enter into the diſcuſſion of theſe; but merely to conſider the complaint, with its ſeveral conſequences, as it is moſt frequently obſerved to occur externally. And as the greateſt part of the phenomena that in general attend it, will be underſtood from the conſideration of phlegmon or local inflammation, we propoſe more particularly to confine our obſervations to that ſpecies of the diſorder.

§ 1.

§ 1. *Of the Symptoms and Terminations of Phlegmon.*

PHLEGMON is a term commonly applied to a circumſcribed tumor, attended with heat, redneſs, tenſion, and a throbbing pain. Theſe are the firſt appearances obſerved in every caſe of phlegmon; and when they are ſlight, and the part affected is of no great extent, they have commonly very little, and ſometimes no apparent, influence on the general ſyſtem. But, when they are more conſiderable, and the inflammation becomes extenſive, a full, quick, and generally a hard, pulſe takes place; and the patient, at the ſame time, complains of univerſal heat, thirſt, and other ſymptoms of fever.

If, either by an effort of nature, or by the application of proper remedies, the pain, heat, and tenſion, are removed, the other ſymptoms we have mentioned, and which in a great meaſure or altogether depended on theſe, likewiſe abate, and the patient ſoon gets well. This is reckoned the firſt, and is generally the moſt deſire-

able, mode of termination, and is termed Reſolution.

If, however, in the courſe of a ſhort time, and notwithſtanding the application of the uſual remedies, the ſeveral ſymptoms of heat, pain, and redneſs, inſtead of diminiſhing, rather increaſe; if the febrile ſymptoms are likewiſe augmented, and the tumor gradually acquires a larger ſize, turns ſoft, ſomewhat prominent in the middle, or towards its moſt depending part, gets a clear ſhining appearance, and becomes leſs painful; the different ſymptoms of fever then abate, and a fluid, upon preſſure, is found to fluctuate underneath. This is another manner in which inflammation terminates, and is called Suppuration.

But if the pain, redneſs, and tenſion of the part increaſe, while the fullneſs of pulſe and other febrile ſymptoms are augmented, at the ſame time that there is little change in the tumor in point of ſize, there is then great reaſon to ſuſpect that Gangrene or Mortification will ſoon take place.

Mortification firſt appears by a change of

of colour in the part affected, which, from being of a bright red, comes to acquire a leaden or livid caſt, while ſmall veſicles containing a thin acrid ſerum are diſperſed over its ſurface—the pain abates—the pulſe ſinks—but continues frequent—the tumor at laſt loſes its tenſeneſs—turns quite black and flaccid—and ſo terminates in a real mortified or dead ſpot.

Theſe are the ſeveral ordinary conſequences of inflammation. By many authors, however, another diſorder has been treated of as one of its terminations, *viz.* Scirrhus. But although that complaint does, perhaps, in ſome inſtances, ſucceed to inflammation, yet it is far from being a common conſequence of it: ſo that, tho' inflammatory affections may juſtly enough be mentioned as one of the many exciting cauſes of Scirrhus, yet the conſideration of that diſorder can never with propriety, it is preſumed, be introduced in a treatiſe on Inflammation.

The different appearances which in general occur in phlegmon being thus pointed

out, together with the manner in which they uſually terminate, we ſhall now proceed to the conſideration of the moſt frequent exciting cauſes of the diſorder, and likewiſe of that which appears moſt probably to be the immediate or proximate cauſe; and ſhall conclude with the prognoſis, and method of treatment adapted to the ſeveral modes in which the diſeaſe is found to terminate.

§ 2. *Of the exciting and prediſpoſing Cauſes of Inflammation.*

The exciting cauſes of inflammation, are in general whatever tend to ſtimulate, or to produce pain and irritation: Such as wounds of all kinds, whether ſimple, lacerated, or punctured, and with whatever inſtrument they may be produced—alſo bruiſes and burns, whether by the actual or potential cautery—likewiſe all corroſive and irritating applications, as the different ſtrong acids, cantharides, and all the claſs of rubefacientia. Ligatures may likewiſe be mentioned, and tumors that act as ligatures

gatures by producing an undue compreſſion on any of the blood-veſſels and nerves; as alſo, violent exerciſe of any particular member, and cold applied to a particular part.

Theſe are the moſt common external cauſes of phlegmon: but there are ſome others which tend to produce the ſame effect, which we are to conſider entirely as of an internal kind; ſuch are the different vitiated ſtates of the fluids, excited by the preſence of morbid matters of different kinds, as thoſe of Lues Venerea, Small Pox, Meaſles, and Scrophula. Fevers too that end in critical inflammations and conſequent abſceſſes, ſeem likewiſe to act in the ſame manner.

Under one or other of theſe heads are comprehended, we preſume, almoſt all the exciting cauſes of inflammation. It is not improper, however, here to obſerve, that there are other cauſes which with propriety may be ſaid to be of the prediſpoſing kind; by tending to produce ſuch a ſtate of the ſyſtem, as renders it more

ſuſceptible of inflammatory complaints than naturally it ought to be. The moſt remarkable of theſe is, a full plethoric habit of body, induced either by a very nouriſhing diet, or by want of exerciſe; or, perhaps, by a combination of both. Theſe diſorders, too, are obſerved to be more frequent in young than in old people, and in men more than in women.

§ 3. *Of the proximate Cauſe of Inflammation.*

VARIOUS opinions have been delivered with reſpect to the proximate cauſe of inflammation: many of which, by not having much probability to ſupport them, have never been generally admitted; and others, after having prevailed for a time, have at laſt too been rejected.

The doctrine on this ſubject, which for ſome years has prevailed in this Univerſity, as it readily accounts for the action of the ſeveral exciting cauſes of Inflammation, for the effects of the diſorder, and for the operation of the medicines employed in the cure, will in future be probably

conſidered as explaining with moſt clearneſs the proximate cauſe of all inflammatory affections.

From obſerving the different phenomena which occur in inflammation, an increaſed action in the veſſels of the part affected ſeems in every caſe evidently to take place; and as from an increaſed action in the arteries of a part, all the circumſtances of inflammation are eaſily explained, we are induced, therefore, to conſider ſuch a ſtate of the veſſels as the proximate cauſe of the diſorder.

This opinion, as we have already obſerved, is greatly ſupported from a review of the ſeveral exciting cauſes of inflammation; which being in general of an irritating or ſtimulating nature, their application to any living or ſenſible parts muſt of courſe be always attended with a preternatural exertion of the veſſels in ſuch parts. Thus, to reaſon from analogy, we obſerve, that ſternutatories applied to the internal membrane of the noſe—the aliments to the ſtomach and inteſtines—and the blood to the internal

internal ſurfaces of the veſſels, all ſerve as ſo many ſtimulants to action in theſe different parts; and, in the ſame manner, corroſive or other irritating ſubſtances, when applied to the coats of the arteries, naturally in them produce the ſame effects as in other muſcular organs.

We thus in a very probable manner account for the action of all direct ſtimulants in the production of inflammation. It frequently happens, however, that inflammation takes place when the application of ſtimulants, or irritating ſubſtances, cannot in any degree be ſuſpected. In ſuch caſes, the increaſed action of the arteries, and of the heart when it occurs, ſeems to be ſupported by a ſpaſm or conſtriction of the extreme veſſels, either of a particular part, or of the general ſyſtem. And hence, from the known tonic or aſtringent power of cold, we account for the frequent occurrence of inflammatory affections in our cold ſeaſons of winter and ſpring; and hence, too, the throat and lungs are more eſpecially ſubject to diſorders

diſorders attended with inflammation, from theſe parts being more particularly liable to the immediate action of cold.

Dr Cullen, who conſiders ſpaſm as the ſole proximate cauſe of inflammation, when treating of this ſubject, ſays, "That a ſpaſm of the extreme veſſels takes place in inflammation, is preſumed from what is at the ſame time the ſtate of the whole arterial ſyſtem. In all conſiderable inflammations, though ariſing in one part only, an affection is communicated to the whole ſyſtem; in conſequence of which, an inflammation is readily produced in other parts beſides that firſt affected. This general affection is well known to phyſicians, under the name of *Diatheſis Phlogiſtica*. It moſt commonly appears in perſons of the moſt rigid fibres; is often manifeſtly induced by the tonic or aſtringent power of cold; is increaſed by all tonic and ſtimulant powers applied to the body; is always attended by a hardneſs of the pulſe; and is moſt effectually taken off by the relaxing power of blood-letting. From theſe

theſe circumſtances, it is probable, that the diatheſis phlogiſtica conſiſts in an increaſed tone, or contractility, and perhaps contraction, of the muſcular fibres of the whole arterial ſyſtem*."

An increaſed action in the veſſels of a part, being admitted as the proximate cauſe of inflammation, we can pretty certainly account for the operation of the ſeveral prediſpoſing cauſes; and upon the ſame ſuppoſition may be explained the different ſymptoms which occur in the courſe of the diſorder.

Thus the increaſed action of an artery, by forcing or propelling into the ſmaller ſets of veſſels, red globules, and other denſe parts of the blood which they cannot eaſily tranſmit, very readily accounts for the redneſs, tumor, tenſion, and throbbing pain, which occur in every caſe of phlegmon: As likewiſe in ſome meaſure for the augmentation of heat, which increaſed attrition muſt in ſuch caſes always produce. It is probable, however, that the accumulation of

* See Firſt Lines of the Practice of Phyſic, p. 88.

of animal-heat alone, which muſt neceſſarily ariſe from a larger proportion of blood being ſent to a part than what naturally it ſhould receive, will have a conſiderable influence in the production of an increaſed degree of heat.

The method of cure, as we have already obſerved, tends alſo to confirm the general doctrine with reſpect to the cauſe. Thus the moſt effectual remedies, in almoſt every caſe of inflammation, are exactly ſuch as would be recommended for the removal of an increaſed tone in any particular part, were we convinced that this alone was the diſeaſe, *viz.* A low diet, blood-letting, with other weakening evacuations, together with emollient ſedative applications: but this, when we come to ſpeak more particularly of the different remedies, will more fully appear.

In almoſt every caſe of external inflammation, except, perhaps, when it is very extenſive, and runs deep, and the different ſymptoms are all very violent, the prognoſtic ſhould in general be favourable.

For,

For, if reſolution, which is the eaſieſt and moſt deſirable termination of the diſorder, is not effected, Suppuration will moſt readily be the conſequence; and the danger attending it in that ſtate, if the conſtitution is otherwiſe healthy, is not commonly very material.

When, however, the inflamed part is of any conſiderable extent, while the different local and general ſymptoms of fever at the ſame time are violent, a good deal of danger is to be dreaded. For, independent of the riſk to the conſtitution from the fever itſelf, if the ſymptoms continue high for any length of time, without ſhowing ſome tendency either to Reſolution or Suppuration, Gangrene will pretty certainly follow; and in what manner that may terminate, is always uncertain.

SECTION II.

Of the Treatment of Inflammation by Reſolution.

§ 1. *Reſolution of inflamed Tumors is, in ſome inſtances, not to be attempted.*

IN the treatment of phlegmon, the principal circumſtance, in general, to be kept in view, is its reſolution; as being by much the ſafeſt and moſt ſpeedy method of cure. I have ſaid, however, only in general; as in ſome particular caſes it is otherwiſe, and Reſolution is by no means to be attempted.

Thus, inflammatory ſwellings, that occur in, or ſucceed to, fevers, and other internal diſorders, ought always to be brought to ſuppuration; for nature in that way pointing out an exit for ſome ſuperabundance of fluids exiſting in the ſy-

ſtem, it might probably be attended with danger to give her any interruption. It is, indeed, on the contrary, always in ſuch caſes the ſafeſt practice to aſſiſt her as much as poſſible, by the uſe of ſuch applications as will moſt readily bring the ſwellings to ſuppuration.

There are other tumors again, proceeding from an internal cauſe too, in which it is perhaps beſt to do nothing at all, either with a view to reſolve or ſuppurate, but juſt to leave them entirely to nature.

Thus, in ſwellings of an inflammatory kind which ſometimes appear in ſcrophula, it might be dangerous to make uſe of repellent applications, at the ſame time that it is not often adviſable to promote their ſuppuration, from their treatment, when opened either by nature or art, proving always very troubleſome. And ſuch ſwellings, it is well known, may remain for a great length of time, without any ſort of riſk to the patient; ſo that, in general, we think it moſt prudent never to meddle with them.

In Lues Venerea too, as we are poſſeſſed of

of almoſt a certain antidote for the diſorder; and as buboes, and other inflammatory ſwellings that occur in it, are commonly, when opened, exceedingly troubleſome, and very difficult of cure; it is perhaps, for theſe reaſons, the moſt prudent practice always to attempt their diſcuſſion: And this more eſpecially, as their being brought to ſuppuration, can by no means free the patient from the diſorder; but leaves him, on the contrary, under as great a neceſſity of undergoing a mercurial courſe, as if no evacuation from the tumor had taken place.

In caſes of Eryſipelas likewiſe, which is a *ſpecies* of inflammation, but which is eaſily diſtinguiſhed from real phlegmon by the colour of the inflamed part not being of ſuch a bright red, but having a more dark copper-like appearance; and by any ſwelling that occurs in it, not riſing evidently into a tumor, but being rather diffuſed, and ending as it were imperceptibly upon the ſurrounding parts: in ſuch caſes, it appears always to be the beſt practice to attempt their diſcuſſion; as, when ſwel-

lings of this nature come to a ſuppuration, they ſeldom either afford good pus, or heal kindly when opened.

So that, the only caſes in which we ſhould not attempt the reſolution of inflammatory ſwellings, are ſuch, as are either of a ſcrophulous nature, or appear to be evidently critical in ſome diſorder; and this, whether in fevers, or other internal diſorders of even a chronic nature. But whenever the exciting cauſe has been of an obvious external kind, and eſpecially when the complaint is not as yet far advanced, we may then always proceed with ſafety and freedom in what is termed the Repelling Method.

§ 2. *Of the Remedies to be employed for the Reſolution of an inflamed Part.*

In caſes of incipient phlegmon, when the ſymptoms are not ſo violent as to have affected the general ſyſtem, topical remedies merely, with a due attention to regimen, often anſwer in diſſolving them. But when, on the contrary, the inflammation runs

runs high, with general ſymptoms of fever, it then becomes neceſſary at the ſame time to pay attention to theſe.

In every caſe of phlegmon, it has been the prevailing practice to have recourſe to warm fomentations and cataplaſms: but, as warm emollient applications of all kinds have the moſt powerful influence in promoting ſuppuration, as will hereafter be more particularly taken notice of, and as is allowed indeed by every practitioner, the uſe of ſuch remedies, while the reſolution of ſwellings is practicable, muſt therefore, it is evident, be attended with much impropriety.

The firſt circumſtance to be attended to, in every caſe of phlegmon, when reſolution of the tumor is to be attempted, is the removal of all ſuch exciting cauſes of the diſorder as may happen to preſent themſelves: Such as, extraneous bodies in wounds; pieces of fractured bones; luxations; and, in ſhort, whatever may appear to have had the leaſt influence in keeping up the inflammation.

Of the various applications uſually employed for an inflamed part, thoſe of a ſedative nature are chiefly to be depended on; and next to theſe, emollients.

Of the former kind, may be conſidered all the different preparations of lead diſſolved in vinegar; and it is preſumed too, that the vegetable acid, by itſelf, acts in the ſame manner.

As emollients, all the bland expreſſed oils are often uſed with advantage; as alſo ointments of a ſoft conſiſtence made with any of theſe and pure wax.

§ 3. *Remarks on the Preparations of Lead, and other ſedative Applications.*

It is not, in any part of this diſſertation, propoſed to enter into minute diſcuſſions on the *modus operandi* of ſuch medicines as are recommended; as that would not only extend the length of it much farther than is intended, but to many would probably appear to be very ſuperfluous. It may not, however, in ſome circumſtances, be improper, to deviate ſo far from the general plan, as

as to render as obvious as poſſible, the propriety of what at any time may be advanced: for mere practical aſſertions, unſupported by ſome foundation in reaſon, can never, it is imagined, prove either ſo uſeful or ſo agreeable as they might otherwiſe be.

With reſpect to the uſe of ſedative applications in caſes of external inflammation, it is not by any means intended to recommend, univerſally, the whole claſs of medicines which in different circumſtances are found to be of this nature. Thus opium, though one of the moſt powerful of all ſedatives, yet, as its external application to the human body is always attended with ſome degree of irritation, however uſeful it may at times have been found in ſome particular ſpecies of inflammatory affections, it will never probably, as an external application, become of general uſe in ſuch diſorders.

Warm emollient fomentations, too, though they no doubt are very powerful ſedatives, as tending, from their nature, more effectually to remove tenſion and

pain, than perhaps any other remedy with which we are acquainted; yet, from a great deal of experience of their effects, in different local inflammations, I have long been convinced, that when the reſolution of inflamed tumors is wiſhed for, ſuch applications are always very improper: As they conſtantly either tend to bring ſwellings of this nature to ſuppuration, that might otherwiſe have probably been diſcuſſed; or, when not attended with this effect, they very commonly induce ſuch a relaxed ſtate of the parts, as renders the thorough removal of the diſorder always exceedingly tedious.

Upon a proper examination of all the different articles ſaid to be of a ſedative nature, ſimilar exceptions to their uſe in every caſe of phlegmon might perhaps be made to the greateſt part of them.

So far, however, as my experience goes, together with that of many others of this country, as well as of Mr Goulard and other French practitioners, no ſuch reaſons have occurred againſt the uſe of lead and its

its preparation in ſuch caſes. On the contrary, indeed, it may be certainly affirmed, that, as diſcutients in inflamed tumors, they prove more ſerviceable by much than any other application in ordinary uſe.

And although Mr Goulard, in extolling a favourite remedy, has been induced to aſſert its effects to be more general and more conſiderable than they probably will ever be found to be; yet ſtill the world is much indebted to him: not, however, for a *new* medicine, as every preparation of lead, recommended by him, was formerly, in ſome form or other, known to every practitioner; but for introducing, to a *more general* uſe, a very effectual remedy for the diſcuſſion of inflammatory ſwellings.

With reſpect to the preparations of lead being here ſaid to be of a *ſedative* nature, the term, it is imagined, is far from being improperly employed; not only from many of the more ſtriking effects of lead, when taken internally, being all evidently of a ſedative tendency, but from its im-

mediate and obvious operation when applied externally to an inflamed part: Which when the preparation is of a proper ſtrength, is almoſt conſtantly an abatement of the different ſymptoms of pain and tenſion, at the ſame time that there is communicated an agreeable ſoothing ſenſation to the part.

Having likewiſe, to a certain degree, in particular circumſtances, obſerved the ſame effects from the vegetable acid, it could not, it was ſuppoſed, be ſo properly taken notice of under any other head.

Mr Goulard, in his diſſertation upon the external uſe of the preparations of lead, recommends them as almoſt equally proper in every ſtage of inflammation. Even when tumors have come to a full ſuppuration, a proper uſe, he ſays, of his *Extractum Saturni*, not by its repelling quality, for he will not allow it to be poſſeſſed of ſuch, but by its occaſioning an exſudation of the contained matter, renders it almoſt always unneceſſary to open them.

The ſame remedy is likewiſe mentioned by

by him as a proper application in every caſe of gangrene. From my own experience, however, of the preparations of lead, I cannot take upon me to recommend them in either of theſe caſes. I have indeed made trial of them in gangrenous caſes, but without any evident effects being produced by them; and, however ſtrongly they may be recommended by Mr Goulard, in the cure of abſceſſes or collections of completely formed pus, I muſt own, that, in this ſtate of the diſorder, I never thought of employing them. So that it is in the real inflammatory ſtate of the complaint only, and while a cure by diſcuſſion may ſtill be expected, that ſuch applications are here meant to be adviſed.

From the known deleterious effects of lead when taken into the ſyſtem, an objection has, by ſome authors, been raiſed againſt a free uſe of the preparations of it, even when externally applied.

That lead, in different forms, has, upon being taken into the conſtitution, frequently proved poiſonous, there is no rea-

ſon

ſon to doubt; and that, in ſome particular inſtances, diſagreeable ſymptoms have occurred, where ſome of the preparations of lead have been externally uſed, is alſo pretty certain. That ſuch bad ſymptoms, however, if they were not merely accidental from ſome other cauſe, are, at leaſt in general, very rare effects of the remedy in queſtion, I can venture, I think, certainly to affirm. For in all the experience I have had of the external application of lead and its preparations, and in many caſes, particularly of burns, I have known the greateſt part of the whole ſurface of the body covered with them for days, nay, even for weeks together, I do not recollect a ſingle inſtance of any diſagreeable ſymptom being ever produced by them.

Of all the preparations of lead for external uſe, *Saccharum Saturni* is perhaps equal, if not ſuperior, to any, as it has all the advantages of the others, with this difference, that, in it, we are much more certain of the exact ſtrength of our preparation, than we can ever be with any other.

For

For although in the *Extrait de Saturn* of Goulard, as likewiſe in the *Acetum Lythargirites* of our Diſpenſatories, which are both, it may be obſerved, very nearly the ſame, we may be very certain of the quantity of lead employed to the vinegar; yet we can never, but by cryſtalliſation, know exactly, or even nearly, how much of the former the menſtruum may have diſſolved, as that muſt depend upon a variety of accidents, and particularly on the ſtrength of the acid, and exact degree of heat employed; which are circumſtances we have not always in our power exactly to regulate. For theſe reaſons, therefore, the ſalt, or ſugar of lead as it is called, ſhould, for external uſe, be always preferred.

The beſt mode of applying the remedy ſeems to be in the form of a watery ſolution; for the preparation of which, the following proportions are, in general, found to anſwer:

R. Sacchar. ſaturn. unc. ſs.
Solve in acet. pur. unc. iv.
Et adde aq. fontan. deſtillat. lb. ii.

The

The addition of vinegar renders the ſolution much more complete than it otherwiſe would be; and without it, indeed, when ſuch a large proportion of the lead is uſed, a conſiderable part of it commonly ſeparates and falls to the bottom.

This is the form which I commonly employ for the uſe of this remedy; but as Goulard's extract and water are preferred by many, I think it right to mention his method of preparing them.—The extract is prepared as follows.

To each quart, containing thiry-two ounces, of French wine-vinegar, add one pound of litharge of gold. Put them into a glazed earthen veſſel, and let them ſimmer for an hour, or an hour and a quarter, upon a gentle fire, taking care to ſtir them during the ebullition with a wooden ſpatula: The veſſel is now to be removed from the fire; and the fæces being allowed to ſubſide, the liquor upon the top muſt be poured into bottles for uſe.

The water uſed by Mr Goulard, which he terms the *Vegeto-mineral water*, is prepared

pared by adding two tea-ſpoonfuls, which he ſpecifies to be one hundred drops, of this extract, to a quart of water, and four tea-ſpoonfuls of brandy. The quantity of the extract and brandy to be diminiſhed or increaſed according to the nature of the diſorder, or degree of ſenſibility in the part affected.

In making uſe of either of theſe ſolutions in caſes of inflammation, as it is of conſequence to have the parts affected kept conſtantly moiſt, cataplaſms prepared with them and crumb of bread, in general anſwer that intention exceedingly well. But, when the inflamed part is ſo tender and painful as not eaſily to bear the weight of a poultice, a circumſtance by no means uncommon, pieces of ſoft linen, moiſtened with the ſolution, anſwer the purpoſe tolerably well: Although, when this objection to the uſe of cataplaſms does not occur, as they retain the moiſture longer, they ſhould always be preferred. Theſe applications ſhould be always made when cold, or at leaſt with no greater warmth than is merely ne-

neceſſary for preventing pain or uneaſineſs to the patient; they ſhould be kept almoſt conſtantly at the part, and renewed always before turning ſtiff or hard.

Among the remedies recommended for external uſe in caſes of inflammation, we mentioned Emollients. Theſe, when the tenſion and irritation on the ſkin are conſiderable, prove often very ſerviceable: the parts affected, being, in this ſtate of the diſorder, gently rubbed over with any of the mild expreſſed oils two or three times a-day, the tenſion, irritation, and pain, are thereby much relieved, and the diſcuſſion of the tumor thereby greatly promoted.

In every caſe of inflammation, indeed, emollient applications would afford ſome relief. But as the preparations of lead already recommended, prove, in all ſuch diſorders, ſtill more advantageous; and as unguents of every kind tend conſiderably to blunt the action of lead; theſe two ſets of remedies ſhould as ſeldom as poſſible be allowed to interfere with one another: And emollients ſhould, accordingly, never be

be preſcribed but when the circumſtances already mentioned, of irritation, tenſion, and pain, are ſo conſiderable as to render their application altogether neceſſary.

Unctuous ſubſtances have likewiſe been condemned in caſes of this nature, but upon a different principle; viz. from their tending to ſtop the pores, and conſequently to obſtruct the perſpiration of thoſe parts to which they are applied. It is not, however, probable, that in this way they could prove very hurtful in preventing the reſolution of inflammation; which muſt always, it is imagined, be effected in a very different manner than by perſpiration.

When the part affected with inflammation is not very tender, or when it lies deep, applications of the vegetable acid are often had recourſe to with conſiderable advantage; and the moſt effectual form of uſing it ſeems to be by way of cataplaſm, made with the ſtrongeſt vinegar and crumb of bread. In ſuch caſes, too, I have ſometimes thought, that an alternate uſe of this

remedy, with the ſaturnine ſolution already recommended, has produced more beneficial effects, than are commonly obſerved from a continued courſe of any one of them.

At the ſame time that theſe applications are continued, bleeding with leeches, or cupping and ſcarifying as near as poſſible to the part affected, proves generally very uſeful, and in no caſe of local inflammation ſhould ever be omitted. In all ſuch caſes, the whole body, but more eſpecially the diſeaſed part, ſhould be preſerved as free as poſſible from every kind of motion; and, for the ſame reaſon, the neceſſity of a low cooling diet in every inflammatory diſorder, appears very obvious, as does alſo a total abſtinence from ſpirituous and fermented liquors.

In ſlight caſes of inflammation, a due perſeverance in the ſeveral remedies we have mentioned, will, in general, be found ſufficient for every purpoſe. But, when there is likewiſe a full, hard, or quick pulſe, with other ſymptoms of fever, general blood-letting

letting becomes then always neceſſary; the quantity of blood taken away being always to be determined by the violence of the diſorder, and by the age and ſtrength of the patient. The uſe of gentle laxatives, too, together with cooling diaphoretic medicines, are always attended with very good effects.

Theſe evacuations being premiſed, the next object of importance is to procure eaſe and quietneſs to the patient; which is often, in caſes of inflammation, of more real ſervice than any other circumſtance whatever. The moſt effectual remedy for this purpoſe is opium; which, when pain and irritation are conſiderable, as in extenſive inflammations very frequently happens, ſhould never be omitted. In large wounds, eſpecially after amputations and other capital operations; in punctures of all kinds too; large doſes of opium are always attended with remarkably good effects. In all ſuch caſes, however, opium, in order to have a proper influence, ſhould, as we have obſerved, be adminiſtered in

very large doſes: otherwiſe, inſtead of proving ſerviceable, it ſeems rather to have the contrary effect; a circumſtance which is, perhaps, the chief reaſon why opiates in general have been very unjuſtly condemned in every caſe of inflammation.

By a proper attention to the different circumſtances we have mentioned, in the courſe of three or four days, and ſometimes in a ſhorter ſpace of time, the reſolution of the tumor will in general begin to take place; at leaſt before the end of this period, it may for the moſt part be known how the diſorder is to terminate. If the heat, pain, and other attending ſymptoms, abate; and eſpecially if the tumor begins to decreaſe, without the occurrence of any gangrenous appearances; we may then be almoſt certain, that, by a continuance of the ſame plan, a total reſolution will in time be effected.

But, on the contrary, if all the different ſymptoms rather increaſe; and eſpecially, as was formerly remarked, if the tumor turns larger, and ſomewhat ſoft, with

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with an increaſe of throbbing pain; we may then with tolerable certainty conclude that ſuppuration will take place: And ſhould, therefore, immediately deſiſt from ſuch applications as were judged proper while a cure was thought practicable by reſolution; and endeavour to aſſiſt nature, as much as poſſible, in the formation of pus, or what is called *maturation* of the tumor.

For this reaſon, in every caſe of inflammation, the different evacuations, eſpecially blood-letting, which may have been adviſable while we were attempting to remove the ſwelling by diſcuſſion, ſhould never be carried a greater length than may be merely neceſſary for *moderating* the ſeveral febrile ſymptoms. For, by reducing the ſyſtem too much, if a ſuppuration afterwards takes place, its progreſs in that caſe becomes always much more ſlow and uncertain than it would have been had a due attention been paid to theſe evacuations; nor will the patient be afterwards ſo able to bear, eſpecially if

it is conſiderable, the diſcharge that muſt neceſſarily enſue from opening the abſceſs.

Although it was remarked above, that if, in general, in the courſe of three or four days, there do not ſome appearances of reſolution occur, ſuppuration will moſt probably take place; and that, conſequently, a change of treatment becomes neceſſary: yet this, it muſt be obſerved, is only to be taken in a limited ſenſe. For the time of deſiſting from one mode of treatment and commencing the other, muſt always depend very much on the ſeat of the inflammation; ſuch diſorders being in ſome parts much more apt to terminate in a ſpeedy ſuppuration than in others.

Thus, in the cellular membrane, as well as in every ſoft part, inflammatory tumors of all kinds terminate much more readily and quickly than when any of the tough membranous parts are affected. Hence, in the coats of the eye and of the teſticles, very violent inflammations often continue for many days, nay, even for weeks, without either

either abating in the ſymptoms, or ending in ſuppuration. In ſuch caſes, therefore, that go on even to a very conſiderable length, we need not be afraid of continuing the diſcutient applications for a much longer time than what, in general, would otherwiſe be proper; and ſhould never be deterred from uſing them, unleſs either an evident ſuppuration has taken place, or there appears from the violence of the ſymptoms a conſiderable riſk, either of gangrene, or of ſome incurable obſtruction: In which event, we muſt no doubt always endeavour to promote the ſuppuration of the tumor.

SECTION III.

Of SUPPURATION.

§ 1. *General Remarks on Suppuration.*

BY the term *Suppuration*, in general, is underſtood, that proceſs, by which the contents of tumors and ulcers are converted into a whitiſh, thick, opaque, ſomewhat fetid matter, termed *Pus*. This, by many, has been ſuppoſed to be effected by a natural exertion of the ſyſtem; but art undoubtedly can, in all ſuch caſes, afford a great deal of aſſiſtance. Before going on, however, to conſider the treatment neceſſary for this purpoſe, it will not be improper to premiſe an examination of the different opinions that have been offered with reſpect to ſuppuration; and this the more eſpecially, as it will tend to elucidate many

many of the obſervations that will afterwards occur.

§ 2. *Of the Formation of Pus.*

By many authors, Pus has been imagined to conſiſt in a diſſolution of the blood-veſſels, nerves, muſcles, and other ſolids, in the fluids of the parts in which inflammatory tumors occur.

This is the opinion of Boerhaave*, Platner†, and many others.

Others, again, have ſuppoſed purulent matter to be formed in the blood; and that it is ſecreted, in its complete ſtate, into Abſceſſes, Wounds, and Ulcers.

The firſt of theſe opinions ſeems ſufficiently confuted from this conſideration, that very extenſive wounds and ulcers continue often for a great length of time, without being attended with any loſs of ſubſtance; which they neceſſarily always would be, if the ſeveral diſcharges afforded by them were found to conſiſt in a diſſolu-

* Aphoriſm, 387.

† V. Inſtitutiones Chirurgiæ, § 54, &c.

tion of the ſolids of the parts in which they are ſituated. Iſſues, too, afford inſtances of the ſame kind; by their yielding, for a number of years, even a daily diſcharge of pus, without producing any evident alteration whatever in the ſtate of the ſolids.

The other opinion has probably ariſen from abſceſſes being ſometimes obſerved to form ſuddenly, and without any evident previous inflammation; ſo that the matter contained in them has been ſuppoſed to be at once depoſited from the blood in a ſtate completely purulent.

Previous, however, to the formation of pus in any part, if due attention was given, ſome degree of inflammation, it is probable, would be always obſerved. But as inflammation, in many caſes, occurs in only a very ſlight degree, and without being attended with much pain, it may often, very readily, have proceeded to the ſtate of ſuppuration, without being ſooner obſerved by the patient: and this we know, in internal abſceſſes eſpecially, is not unfre-

frequently the caſe. We are told, indeed, of very quick tranſlations of matter from one part of the body to another: but if ſuch inſtances do ever occur without the intervention of inflammation, a circumſtance, however, much to be doubted; yet, ſtill, it is no material objection to our argument, as ſuch caſes can never be conſidered in any other light, than as *particular*, and very *unuſual*, exertions of the ſyſtem.

It may be remarked alſo, that if purulent matter frequently exiſted in the blood, as it undoubtedly would do if the opinion now under conſideration was well founded; in ſome caſes, at leaſt, it would ſurely have been liable to detection: but no matter of this kind has, it is imagined, ever yet been diſcovered in it. Such pus, too, as is found in wounds and ulcers, would not at firſt appear thin and ſerous, as it always does, if depoſited completely formed from the blood.

The moſt probable opinion hitherto advanced with reſpect to the formation of pus, is, that it is a change produced by

a certain degree of fermentation, upon the ſerous part of the blood, after its ſecretion into the cavities of ulcers and abſceſſes; and this in conſequence either of the natural heat of the part, or of heat artificially applied.

That it is the ſerum only of blood, which is proper for the formation of pus, and that it is produced by the application of a certain degree of heat, was firſt rendered very probable by an experiment related by Sir John Pringle in the appendix to his treatiſe on the diſeaſes of the army*; and it was afterwards fully confirmed by ſeveral others of the ſame nature made by Mr Gaber, and related by him at full length in the ſecond volume of the *Acta Taurinenſia*.

Sir John Pringle found, that pure ſerum, kept for ſome days in a furnace regulated to the human heat, after becoming turbid, dropped a white purulent ſediment. The craſſamentum of blood, in the ſame ſpace of time and degree of heat, changed from a deep crimſon to a dark livid

* Experiment xlv.

livid colour; ſo that, when any part of it was mixed with water, it appeared of a tawny hue. Serum, digeſted with a few red globules, and in the ſame circumſtances, was of the ſame colour.

Mr Gaber's experiments, as we have already remarked, all tend to elucidate and corroborate the ſame opinion, namely, That pure unmixed pus is formed only from ſerum. The addition of red globules to ſerum, and craſſamentum digeſted by itſelf, exhibited much the ſame appearances as thoſe quoted above from Sir John Pringle*. Fat, which is thought by many to be a principal ingredient in the compoſition of pus, was found by Mr Gaber, when expoſed to the above-mentioned trial, to exhibit no appearances of that matter; nor were any of the fleſhy parts, when digeſted either with ſerum or water, convertible into it.

From all which, it may be concluded, that the addition of any of theſe articles to ſerum, inſtead of rendering it capable of producing good pus, has always the very

* V. Act. Taurin. vol. ii. p. 87.

very contrary effect; and that it is pure ſerum alone from which that matter can be obtained.

It may here be remarked, once for all, that what is meant by *pure ſerum*, is not that finer halitus, which, in a healthy ſtate of the body, is conſtantly ſecreting into the different cavities, merely for the purpoſe of lubricating and keeping them moiſt, and which is again generally abſorbed; but it is a ſerous fluid, of the ſame nature with that which ſeparates ſpontaneouſly from blood, upon that fluid being allowed to remain at reſt when diſcharged either from an artery or a vein: And in which, though there is never ſuppoſed to be any mixture of red globules, yet there is certainly always more or leſs of the coagulable lymph; ſome proportion of which ſeems abſolutely neceſſary for ſerum to be poſſeſſed of, to render it capable of producing pus.

The ſeveral effects we have already mentioned as being produced by digeſtion upon ſerum out of the body, will very readily occur,

occur, it is preſumed, on the ſame cauſes being applied to it when collected in the cavities of ulcers and abſceſſes; and, from the reſult of the different experiments alluded to, it is probable, that, according as it is there depoſited more or leſs free from mixtures of fat, red globules, and other ſubſtances, it will yield pus of a more pure or vitiated nature.

This account of the formation of pus is the moſt ſatisfactory, it is conceived, of any that has as yet been given; and this more eſpecially, as it renders evident, as will afterwards appear, the operation of all the remedies commonly found moſt effectual in promoting ſuppuration.

§ 3. *Of the neceſſary Remedies for promoting Suppuration.*

When, for the reaſons we have already enumerated, it is judged moſt proper to uſe means for promoting the ſuppuration of an inflamed part, then all the remedies we have been recommending with a view to reſolution, muſt immediately be laid aſide.

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No farther evacuations, as was obſerved, are to be admitted; and if the patient has been much weakened, a full allowance in point of diet, and even a proportion of wine, may probably be neceſſary.

For although a very violent degree of inflammation proves always unfavourable to ſuppuration, by promoting the progreſs of Gangrene, as will afterwards be taken notice of; or as tending to propel into the cellular membrane, which in general is the ſeat of abſceſſes, a quantity of red globules, together with the ſerum of the blood, which alone ought to be extravaſated for the formation of good pus; yet, in order to have a due quantity of ſerum ſecreted for the purpoſe of ſuppuration, and at the ſame time to have its fermentation properly carried on, the different inflammatory ſymptoms muſt never be allowed to ſubſide ſuddenly; otherwiſe an abſceſs containing very ill-digeſted matter, as it is termed, will moſt probably be produced.

Thus we find in ſmall-pox, which are ſo many ſmall phlegmaſiæ, that altho' bloodletting

letting and other evacuations to a certain extent prove frequently uſeful, yet a proper ſuppuration never takes place if the patient has been much debilitated by any conſiderable diſcharge; and the ſame thing very certainly occurs, in ſimilar circumſtances, in abſceſſes of a larger ſize. The patient therefore ſhould neither be allowed to live ſo fully as might raiſe the inflammation too high, nor ſhould he be reduced in ſuch a manner, by evacuations and low diet, as to induce the contrary extreme.

Having in this manner endeavoured to procure a diſcharge into the cellular membrane, of ſerum proper for the formation of pus, the next circumſtance requiring attention is, that a due fermentation be excited, and preſerved in it, ſo that its progreſs towards perfect mutaration may go eaſily and regularly on.

This indication is chiefly effected by the uſe of ſuch applications as tend to preſerve a proper and conſtant degree of heat in the part: in ſo much, that it ſeems probably owing to a want of attention to this cir-

cumſtance, that the greateſt part of all the ſofter ſwellings do not come to ſuppuration; and that according to the degree of heat in which they are kept, whether from the proportion of inflammation by which they are at firſt produced, or from the natural heat of the part they are ſeated in, they form into tumors of melicerous, ſteatomatous, and other conſiſtences. For unleſs a due degree of heat be applied and continued, ſerum being merely extravaſated will never produce pus: hence, in aſcites, and other dropſical diſorders, large quantities of it remain in this ſtate for a great length of time, without any ſuppuration taking place; and that merely from ſuch collections being produced without any inflammation at firſt, ſo that no aſſiſtance is afforded from any degree of *preternatural* heat; and the *natural* heat of ſuch parts, in which ſerous collections uſually occur, is ſeldom conſiderable enough to produce ſuch an effect.

The degree of heat beſt ſuited for promoting ſuppuration is not perhaps eaſily to be determined; but the more conſiderable

able it is, at leaſt to a certain extent, the more quickly, it is probable, pus will be formed.

This we find, indeed, from Mr Gaber's experiments, is ſo far the caſe*: and the obſervation is likewiſe confirmed by daily experience in every caſe of phlegmon; in which the tumor, cæteris paribus, always proceeds more quickly or more ſlowly to ſuppuration, as it is ſeated nearer to, or at a greater diſtance from, the heart. Hence, in any of the extremities, particularly in the legs, inflammatory diſorders proceed very ſlowly to ſuppuration; while thoſe of the trunk, and about the head, go on very quickly. Thus many caſes of inflammation of the ears and throat frequently arrive at a thorough maturation, and even burſt of themſelves, in the courſe of forty-eight hours from the firſt attack.

This conſideration, therefore, ſhould make us particularly attentive to the preſervation of a due degree of heat in every

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* When ſpeaking of pus being formed in, and ſubſiding from, ſerum digeſted in a degree of heat equal to that of the human body, Mr Gaber ſays, "Eo autem citius ſubſidebat, quo calor erat major." *Loco citato.*

inflamed part intended to be brought to ſuppuration; but more eſpecially in ſituations very diſtant from the heart, where artificial heat is moſt wanted, and where, by a proper application of it, almoſt every tumor, though ſituated on the extremities, might probably be made to ſuppurate in the ſame ſpace of time with thoſe in the ears and other parts juſt now taken notice of.

I am not only convinced, by experience, of what is here aſſerted reſpecting the very ſingular advantages to be obtained from a due attention to this matter; but alſo, from a courſe of experiments I was engaged in ſome years ago upon the ſame ſubject. But as theſe turned out almoſt exactly ſimilar to thoſe related by Mr Gaber, no exact account was preſerved of the reſult of them: this, however, is particularly remembered, that in a heat equal to 100° of Farenheit's thermometer, the depoſition of matter from ſerum took place in little more than half the time that was requiſite for the ſame effect at even eighty degrees.

It was the proſecution of theſe experiments,

ments that firſt ſuggeſted to me the probability of the great advantages to be derived from the preſervation of a due degree of heat in inflamed parts; and I have accordingly, on many occaſions ſince that time, found the treatment of ſuch caſes go on much more eaſily than otherwiſe I ſhould either have expected or have been able to account for.

Warm fomentations and cataplaſms are the means commonly employed for the application of heat to an inflamed part; and when theſe are regularly and frequently renewed, nothing, it is probable, can more effectually anſwer the purpoſe. But, in the ordinary manner in which they are applied, as the cataplaſms are renewed only once, or at moſt twice, in the day, they muſt always, it is imagined, do more harm than good. For as ſoon as the degree of heat they were at firſt poſſeſſed of is diſſipated, the moiſture kept up by them, with the conſequent evaporation that enſues, muſt always render the part a great deal colder than if it had been merely

wrapped in flannel, without the uſe of any ſuch application.

In order to receive all the advantages of ſuch remedies, the part affected ſhould be well fomented with flannels preſſed out of any warm emollient decoction, applied as warm as the patient can eaſily bear them, continued at leaſt half an hour at once, and renewed four or five times a-day.

Immediately after the fomentation is over, a large emollient poultice ſhould likewiſe be applied warm, and renewed every ſecond or third hour at fartheſt. Of all the forms recommended for emollient cataplaſms, a common milk-and-bread poultice, with a proportion of butter or oil, is perhaps the moſt eligible; as it not only poſſeſſes all the advantages of the others, but can at all times be more eaſily obtained.

Roaſted onions, garlic, and other acrid vegetables, are frequently made uſe of as additions to maturating cataplaſms: When there is not a due degree of inflammation in the tumor, and when it appears probable

bable that the ſuppuration would be quickened by having the inflammatory ſymptoms ſomewhat increaſed, the addition of ſuch ſubſtances may then be of ſervice; but when ſtimulants are neceſſary in ſuch caſes, a ſmall proportion of ſtrained galbanum, or of any of the warm gums, diſſolved in the yolk of an egg, and added to the poultices, is not only a more elegant, but a more certain form of applying them. In ſome caſes, too, the ſame intention may be more certainly accompliſhed, by combining a ſmall quantity of cantharides with any application intended to be employed.

Whenever the inflammation, however, takes place to a proper degree, ſuch ſtimulating ſubſtances can never be neceſſary; and from the different obſervations we have already made, there is reaſon to think, that in many inſtances they might even do miſchief.

In ſuch tumors as, from their being attended with little or no inflammation, are commonly ſaid to be of a cold nature, as they are generally indolent, and proceed

very ſlowly to ſuppuration, plaſters compoſed of the warm gums are often employed with conſiderable advantage: in ſuch caſes, they are not only of uſe by the ſtimulus and irritation they occaſion, but by the heat which they tend to preſerve in the part. They become particularly neceſſary, when the patient, by being obliged to go abroad, cannot have cataplaſms frequently enough renewed, or ſo conveniently applied; but when ſome ſuch objection does not occur, the latter, for very obvious reaſons, ſhould always be preferred.

Dry cupping, as it is termed, that is, cupping without the uſe of the ſcarificator, upon, or as near as poſſible to, the part affected, is frequently uſed with advantage for promoting the ſuppuration of tumors: it is only, however, in ſuch as theſe laſt mentioned, where there ſeems to be a deficency of inflammation, that it can ever either be neceſſary or uſeful; but in all tumors of a real indolent nature, and where there is ſtill ſome probability of a

ſuppuration

ſuppuration being effected, I have ſeldom obſerved ſuch good effects from any other remedy.

Theſe different applications, under the reſtrictions we have taken notice of, being continued for a longer or ſhorter time, according to the ſize of the tumor, its ſituation and other circumſtances, a thorough ſuppuration may, in general, at laſt be expected.

Matter being fully formed in a tumor, is known by the remiſſion of all the ſymptoms which takes place: the dolor pulſatilis, that before was frequent, now goes off; and the patient complains of a more dull, conſtant, heavy pain: the tumor points at ſome particular part, generally near to its middle; where, if the matter is not encyſted, or deep ſeated, a whitiſh yellow appearance is obſerved, inſtead of a deep red that formerly took place; and a fluctuation of a fluid underneath, is, upon preſſure, very evidently diſcovered. Sometimes, indeed, when an abſceſs is thickly covered with muſcular and other parts;

and when, from concurring circumſtances, there can be little doubt of their being even a very conſiderable collection of matter, yet the fluctuation cannot be readily diſtinguiſhed: but it does not often happen, that matter is ſo very deeply lodged as not to be diſcovered upon proper examination.

This, however, is a circumſtance of much importance in practice; and deſerves, it may be remarked, more attention than is commonly given to it. In no part of the ſurgeon's employment, is experience in former ſimilar caſes of more uſe to him than in the preſent; and however ſimple it may appear, yet nothing, it is certain, more readily diſtinguiſhes a man of obſervation and extenſive practice, than his being able eaſily to detect collections of deep-ſeated matter: whilſt nothing, on the contrary, ſo materially affects the character of a ſurgeon, as his having, in ſuch caſes, given an inaccurate or unjuſt prognoſis; for the event, in diſorders of this nature,

nature, comes generally at laſt to be clearly demonſtrated to all concerned.

Together with the ſeveral local ſymptoms of the exiſtence of pus, already enumerated, the frequent ſhiverings that patients are liable to on its firſt formation may likewiſe be mentioned; theſe, however, ſeldom occur ſo as to be diſtinctly obſerved, unleſs the collection is conſiderable, or ſeated internally in ſome of the viſcera. But, in every large abſceſs, they are almoſt conſtantly met with; and, when they appear along with other ſymptoms of ſuppuration, they tend always to aſcertain the real nature of the diſorder.

§ 4. *Of Abſceſſes, and of the proper Period for opening them.*

In the treatment of abſceſſes, it is a general rule, not to diſcharge their contents till a thorough ſuppuration has taken place; for, when laid open long before that period, and while any conſiderable hardneſs remains, they commonly prove troubleſome, and ſeldom heal kindly.

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In ſome caſes, however, it is neceſſary to deviate from this general rule, and to open them a good deal ſooner; particularly in all ſuch critical abſceſſes as occur in malignant fevers. In the plague, too, we are commonly adviſed to open ſuch tumors as ſoon as they are tolerably advanced, and not to wait till they are fully maturated; for, in ſuch inſtances, it is found, that the patient receives more benefit from an early diſcharge of matter, than he can ſuffer harm from having any ſwelling of this nature ſomewhat prematurely laid open.

Abſceſſes, too, ſituated on any of the joints, or upon either of the large cavities of the breaſt and abdomen, and more eſpecially when they ſeem to run deep, ſhould always be opened as ſoon as the leaſt fluctuation of matter is diſcovered. For, when the reſiſtance is on every ſide equal, they will juſt as readily point internally as outwardly; and the conſequence of a large abſceſs burſting into either of the large cavities eſpecially, is well known

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moſt frequently to prove fatal: An inſtance of which, in the following caſe, I had ſome time ago an opportunity of obſerving, which, with very little attention, might have been prevented.

A ſurgeon of eminence, and of very extenſive practice, was applied to by a young healthy-looking man, with a large abſceſs upon the left ſide of his cheſt. A fluctuation of a fluid was, upon preſſure, very evidently diſcovered; and it was agreed, by other two practitioners who were preſent, that an opening ſhould be made to give vent to the matter. But the operator being much engaged in buſineſs, could not fix on an earlier period for doing it than the third day from the patient's firſt applying to him: unluckily, however, the patient died ſuddenly in his bed, the night before the abſceſs was to have been opened.

On examining the body, the tumor was found to have diſappeared entirely, without any external opening being obſerved; and, on laying open the thorax, the

the matter was obſerved to have burſt inwardly upon the lungs, and hence had produced immediate ſuffocation.

In all other caſes, however, except in thoſe alluded to, the rule in opening abſceſſes is, as was already remarked, to allow a thorough ſuppuration to take place, before any vent whatever be given to the matter; and it being then determined to lay the collection open, the next queſtion that occurs, is with reſpect to the manner of doing it.

§ 5. *Of the different Methods of opening Abſceſſes.*

Two different methods of opening abſceſſes have been recommended by authors, namely, by Cauſtic and Inciſion. To the former, however, there are many objections: It is not attended with any ſuperior advantage to a ſimple inciſion; upon a tender inflamed part, it gives much more pain; it is more ſlow in its effects; and the ſurgeon never has the command of it ſo entirely as to deſtroy thoſe parts he would

would incline, and no more; for all the different kinds of cauſtic, notwithſtanding the greateſt attention, will ſometimes ſpread farther, and penetrate deeper, than was either wiſhed for or intended. Of this I, ſome years ago, ſaw a very remarkable inſtance; and in a ſituation, too, in which an accident of this nature would not be thought likely to occur.

Cauſtic was applied to the anterior part of the ſcrotum, with a view to produce a radical cure, in a caſe of hydrocele: but whether there had been very little water collected, or whether a preternatural adheſion of the teſtis to the tunica vaginalis had, at this part, been produced, is uncertain; but the cauſtic penetrated to the body of the teſticle, and gave the patient, as may readily be imagined, a great deal of very excruciating pain. It did, to be ſure, accompliſh a cure: but the danger attending ſuch an accident, although it probably might not frequently occur, is, I ſhould imagine, a very ſtrong objection to the uſe of cauſtic in all ſuch caſes; and it is now indeed

indeed very generally, I believe, laid aſide, the preference being juſtly given to the ſcalpel.

When tumors are not very large, they are commonly opened by a longitudinal inciſion with a lancet or ſcalpel. This ſhould be ſo directed as to terminate at the moſt depending part of the ſwelling, and ſhould be of ſuch a ſize as may ſeem ſufficient for giving a free diſcharge to the matter; about two thirds of the length of the tumor is, in ſuch caſes, generally reckoned extenſive enough.

When abſceſſes, however, are of any conſiderable extent, they are commonly laid open through their whole length; and when the teguments have been greatly ſtretched, it is adviſed by many to take part of them away altogether. But this is a practice which ſeldom, or perhaps never, ought to be followed; as there are ſcarcely any abſceſſes ſo large as to deſtroy entirely the contractile power of the integuments; and while this remains in any degree in a part, there are ſtill hopes of its

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again recovering its former dimenſions. It is ſurpriſing indeed to what extent this obſervation applies. In many inſtances, the ſkin has been known to recover its tone entirely, after having been for a time completely deprived of it.

Theſe are the ſeveral modes of opening abſceſſes by the ſcalpel. There are different inconveniences, however, found to attend all of them; and particularly, that as ſoon as an inciſion is made into a tumor, the whole contained matter is diſcharged ſuddenly and at once: Whereby, when the collection is conſiderable, faintings and other diſagreeable ſymptoms are frequently induced; and what, in all large ſwellings eſpecially, is conſtantly attended with very bad effects, a free admiſſion of air is thereby given to a great extent of ulcerated ſurface.

The bad effects of air on every ſpecies of ſore, is well known to every practitioner; but its pernicious influence, on a newly opened abſceſs, is often really aſtoniſhing. It firſt occaſions a total change in the na-

ture of the matter, from perhaps a very laudable pus to a thin ill-digeſted ſanies; and afterwards brings on a quickneſs of pulſe, debilitating ſweats, and other ſymptoms of hectic fever, which, for the moſt part, when the collection has been conſiderable, either carries the patient off in a ſhort time, or terminates in a confirmed phthiſis, which ſooner or later proves fatal.

This I have, in a great many inſtances, had occaſion to obſerve; and that, in ſuch caſes, it is the admiſſion of air alone which produces all theſe bad ſymptoms, is rendered highly probable from this circumſtance, that of a great number of patients who have laboured under ſuch diſorders, many have remained for a very conſiderable time, with large abſceſſes fully formed, and without having any one ſymptom of hectic whatever: but when they have ever exceeded an ordinary or moderate ſize, I have ſeldom known an inſtance of their being opened by a large inciſion, without almoſt every hectic ſymptom taking place; and this generally in leſs than forty-eight

hours from the time of their being laid open.

In what manner the admiſſion of air to an abſceſs operates in producing ſuch a powerful and ſudden effect, is perhaps difficult to determine. The irritation produced by it, on a large extent of ulcerated ſurface, may probably be one reaſon:—By acting as a ſtimulus on the extremities of the different abſorbents opening into the ſore, it may occaſion a larger abſorption of matter than would otherwiſe take place;—and it may likewiſe, by rendering the matter more putrid than before, give even to the ſame quantity abſorbed greater activity in producing the different ſymptoms of hectic.

That this conjecture is well founded, with reſpect to an increaſe of putreſcency being the principal cauſe of the bad effects produced by the admiſſion of air to ſores, is, from different circumſtances, at leaſt exceedingly probable. For, in the firſt place, altho' the diſcharge from abſceſſes is commonly mild, and free from any diſagreeable fetor

on their being newly laid open; it almoſt conſtantly becomes thin, acrid, and more fetid in the courſe of a few dreſſings, which is a certain proof of a greater degree of putreſcency having then taken place. On this principle, too, we may account for the operation of many of the remedies commonly employed in the treatment of ſores; and more eſpecially of that powerful antiſeptic, fixed air, which by many practitioners have been ſo much extolled.

We know from experiment likewiſe, that other ſubſtances, as well as that part of the blood from which pus is formed, is rendered putrid, and more quickly ſo, by the admiſſion of air, than otherwiſe, while in the ſame degree of heat, they probably ever would be*.

From theſe conſiderations, therefore, the greateſt caution appears to be neceſſary, for preventing, as much as poſſible, the admiſſion of air to the internal ſurface of every collection of matter; and this, we may

* *Vide* Sir John Pringle's and Mr Gaber's Experiments on this ſubject. *Loc. cit.*

may remark, is very eaſily and effectually done, by opening collections of this kind by means of a ſeton or cord, inſtead of having recourſe either to cauſtic or the ſcalpel.

This method of diſcharging the contents of tumors, by the introduction of a cord, is attended with every advantage of that by inciſion: it, moreover, empties the ſwellings, of whatever ſize they may be, not ſuddenly, but very gradually; it effectually prevents a free admiſſion of air; it is not commonly attended with near ſo much pain and inflammation; nor is the cicatrix occaſioned by it ever inconvenient, or unſeemly, which it frequently is after a large inciſion.

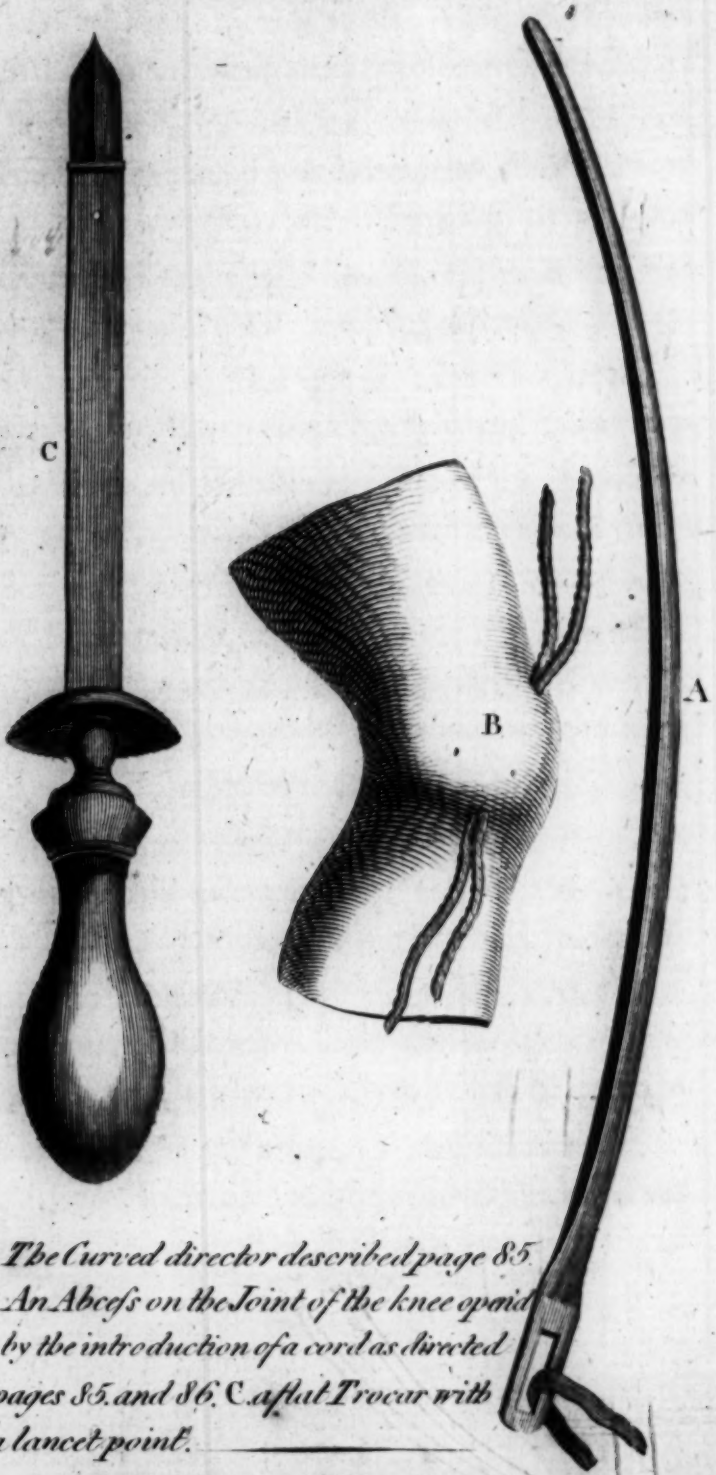
In the Royal Infirmary of this place, large abſceſſes, as well as thoſe of a ſmaller ſize, uſed formerly to be opened in the uſual manner, by extenſive inciſions: the conſequences were ſuch as have been already related; many of the patients were thrown into ſuch obſtinate hectic fevers as they never recovered from; and others, though they did get better at the time, were com-

monly ſo much debilitated as to be very liable to be ſeized with other diſorders, from which they ſeldom entirely recovered.

This was the moſt frequent reſult of our treatment of large abſceſſes by inciſions; and ſimilar conſequences will ſtill be found to prevail where this practice is continued: but ſince the ſeton came to be generally uſed here, few or no ſuch diſagreeable circumſtances have occurred. Many of the largeſt tumors have been opened in this manner: and when the patients are otherwiſe in good health, they very commonly do well; and with this additional advantage, that a cure is frequently obtained in little more than half the time uſually found neceſſary after a large inciſion has been employed.

The opening of abſceſſes by the introduction of a ſeton has been mentioned by different authors, and in ſmall collections of matter has been frequently practiſed; but never ſo generally, I imagine, as it has been here within theſe laſt twenty years, both in the hoſpital

BELL ON ULCERS *Page 85.*



A *The Curved director described page 85.*
B *An Abcess on the Joint of the knee opened by the introduction of a cord as directed pages 85. and 86.* C. *a flat Trocar with a lancet point.*

hoſpital and in private. And in juſtice to Mr James Rae, ſurgeon in this place, it muſt be acknowledged, that we are chiefly indebted for it to his recommendation, he having firſt propoſed the general uſe of ſetons in ſuch caſes, at the ſame time that he invented a ſet of inſtruments, by which they are eaſily inſerted in almoſt all abſceſſes, however deep ſeated, and among whatever parts they may run; and this too without any riſk of wounding the large blood-veſſels, nerves, or tendons, in the neighbourhood.

Several ſets of theſe inſtruments, for abſceſſes of different ſizes, are kept in the Infirmary here: they fulfil the intention, as was already obſerved, exceedingly well, and are a very ingenious contrivance. But as the curved director we have delineated in the plate, anſwers the purpoſe equally well, and is in itſelf fully more ſimple, it will for that reaſon be in general found more convenient. It is uſed in the following manner.

An opening ſufficiently large for the cord, being made with a lancet in the ſu-

perior part of the abſceſs, the director, threaded with a cord of candle-wick cotton, or of ſoft ſilk, proportioned in thickneſs to the ſize of the tumor, is then to be introduced, and its point to be puſhed downwards till it is felt externally, exactly oppoſite to the moſt depending part of the ſwelling. The director being kept firm by an aſſiſtant, an inciſion is to be made with a ſcalpel upon its under extremity, of a length ſomewhat more conſiderable than the opening firſt made by the lancet: for when this circumſtance is not attended to, and when of courſe the under orifice is made no larger than the upper, the matter is very apt to tranſude above; which always proves inconvenient to the patient, but which in this manner is very eaſily avoided. The director is now to be drawn downwards, with ſo much of the cord as to leave two or three inches of it hanging out at the lower orifice. In order to cauſe the cotton run eaſily on its firſt introduction, as likewiſe at the ſubſequent dreſſings, as much of it as is to be uſed at the time

time ſhould be well rubbed over with any emollient ointment.

In twenty-four hours or thereby from its introduction, the cord may be moved, and ſo much of it ſhould be drawn downwards as to admit of all that part of it being cut off which had been lodged in the abſceſs; and in this manner the ſame quantity of it is to be moved daily, as long as from circumſtances it may appear to be neceſſary.

A regular and ſlow diſcharge of the matter is thus produced; the ſides of the abſceſs are thereby allowed to contract gradually; and a ſlight inflammation being kept upon their ſurfaces by the friction of the cord, they are from that circumſtance brought to unite and to adhere firmly to one another, much ſooner than they otherwiſe would do. As the diſcharge diminiſhes in quantity, ſo the ſize of the ſeton ſhould alſo be gradually leſſened; and it is eaſily done, by withdrawing a thread of the cotton once in two or three days. At laſt, when there is little more matter afforded

than ought to be naturally produced by the irritation of the cord, it may be altogether taken out; and gentle preſſure being continued upon the parts by a roller for a few days longer, a pretty certain and laſting cure may generally be expected.

In the introduction of the ſeton it was expreſsly ſaid, that it ought to be made from above downwards; that is, by an opening made in the ſuperior part of the abſceſs. The reaſon for ſuch a reſtriction is this, that when the firſt opening is made in the depending part of a ſwelling, a conſiderable quantity of matter immediately runs out, which, as it cauſes the ſides of the upper part of it to collapſe, renders it more difficult to introduce the director through the whole courſe of the abſceſs, than when done in the manner directed: when properly executed, the bottom as well as every other part of the tumor is kept diſtended to the laſt, very little of the matter eſcaping by the upper orifice. By being introduced in this way, too, the quantity of cord that ſtill remains to be

uſed

uſed is kept clean and dry; which it cannot poſſibly be when inſerted in the contrary manner.

To ſome theſe circumſtances may perhaps appear too trifling to deſerve ſuch particular notice; but too much, it is imagined, can never be ſaid in rendering the account of a beneficial practice clear and evident.

All that has hitherto been ſaid with reſpect to the uſe of ſetons in caſes of abſceſs from recent inflammation, applies with equal propriety, it muſt be underſtood, to tumors of very long continuance, when the matter contained in them is either of a purulent nature, or of a conſiſtence not much thicker than pus. All encyſted tumors of the thinner melicerous kind are as ſucceſsfully treated in this manner as recent abſceſſes: ſo that the practice is by no means confined to one ſet of tumors only; and it may even probably be employed in others, for which it has not as yet been adviſed.

It anſwers particularly well in all collec-

tions of matter in glandular parts, where the admiſſion of air is attended with even worſe conſequences than in other parts. Thus, when it is thought adviſable to open ſcrophulous ſoft ſwellings, they commonly heal much ſooner and eaſier with the ſeton than by a large inciſion. Venereal buboes, too, when fully maturated, and when the teguments are not become very thin by being long overſtretched, heal much more readily and kindly by this management than with any other.

From the practice anſwering ſo remarkably well in every caſe of abſceſs, it was at laſt, a good many years ago, employed by Mr Rae in the Infirmary here, in the hydrocele, or collection of water in the *tunica vaginalis teſtis*; and it has ſince that time been frequently uſed in ſimilar caſes. I muſt acknowledge, however, that from the ſeveral inſtances I have yet ſeen of its effects in this diſorder, I am not altogether certain whether it ought to be preferred to the ſimple inciſion or not. For, though I never knew an inſtance, when the operation

ration was properly done, of its failing to produce a radical cure; yet the friction of the cord upon the body of the teſtis, to which in this operation it is immediately applied, generally occaſions a very high degree of inflammation; fully more, I have often thought, than is commonly obſerved from the ſimple inciſion: Farther experience, however, is neceſſary, in order to determine a queſtion of ſuch importance.

This was my opinion in the year 1778, when the firſt edition of this book was publiſhed. Since that period I have had no other reaſon to alter it, than to be more and more convinced that the treatment of hydrocele by ſeton, is productive of more pain than any other method of cure now in uſe; while, at the ſame time, it is not more certain in its effects than the ſimple inciſion. And, accordingly, although I could not at that time ſpeak with preciſion of the merits of this operation, I am now ſatisfied that the cure by inciſion ought in every inſtance to be preferred.

But when, in ſuch caſes, it is reſolved

to employ the ſeton, the method of introducing it, as we have directed for abſceſſes, with a curved director of a proper ſize, ſeems more ſimple, though in other reſpects perhaps not better, than that lately recommended by Mr Pott, which being with the help of a common trocar, appears to be neither ſafe nor eaſily performed. For inſtances have occurred, even with very able ſurgeons now living, where, in caſes of hydrocele, the body of the teſtis has been wounded by puncturing with that inſtrument; which, from its round form, is introduced with much difficulty. Whenever it is agreed upon, however, to make uſe of a trocar, either with a view to a palliative or a radical cure, one with a lancet-point, as is repreſented in the plate, anſwers the purpoſe with much more eaſe than that in common uſe. A large inſtrument of this kind was made, by my direction, ſome years ago, for the paracenteſis of the abdomen; and, as it anſwered the purpoſe exceedingly well, it has ſince been

been often uſed, and is now very generally employed *.

SECTION IV.

Of MORTIFICATION.

§ 1. *General Remarks on Gangrene,*

THE termination of inflammation, both by Reſolution and Suppuration, having now been fully treated of, we come next in order to the conſideration of Gangrene or Mortification.

The ſeveral appearances of Gangrene having been already particularly enumerated, it is not now neceſſary to make a full recapitulation of them. Only, it may be remarked,

* Mr Thomas Hay, ſurgeon in this place, ſome years ago invented a curved director, ſuch as is here recommended, which has ſince that time been uſed for the introduction of a cord in caſes of hydrocele, and is found to anſwer the purpoſe very conveniently.

marked, that a thorough mortification, or the laſt ſtage of gangrene, is known only by the diſeaſed part becoming totally black, by its loſing all pain and ſenſation, at the ſame time that it emits a conſiderable fetor; at laſt, too, a ſoftneſs or flaccidity in general takes place, together with an entire diſſolution of the different parts of which the organ is compoſed.

I have ſaid only in general: for although the ſeveral appearances, as above related, do moſt frequently occur; yet there are ſome inſtances of what is called Dry Gangrene, in which the parts continue totally mortified for a great length of time, without either turning very flaccid, or running into diſſolution.

Such caſes, however, never occur from inflammation. They happen commonly from the flow of blood to ſuch parts being put a ſtop to by compreſſion of one kind or another, as tumors, ligatures, or other ſimilar cauſes, obſtructing the principal arteries that uſed to ſupply them; which, when the ſtoppage of the circulation is complete,

complete, always occaſion a very ſlow mortification; and as the parts, in ſuch inſtances, are no longer ſupplied with freſh quantities of fluids, while a conſiderable evaporation muſt ſtill be going on, ſuch a degree of humidity cannot therefore poſſibly occur, as in other caſes of gangrene. Thus, that ſpecies of the diſorder has, perhaps with propriety enough, been termed the Dry Gangrene.

There are other varieties of the diſeaſe enumerated by authors, as the White Gangrene*; in which the parts ſuppoſed to be mortified do not turn black, but retain nearly their former colour, &c. Whether ſuch complaints, however, can with propriety be denominated Gangrene or not, may probably be doubted: but as it is chiefly that ſpecies of the diſorder which ſucceeds to inflammation, that is now particularly to be treated of, and in which no ſuch varieties are ever obſerved, it is not here neceſſary to carry the inquiry farther; and eſpecially as nearly the whole mode

* Queſnay, Traité de la Gangrene, p. 337.

mode of treatment, to be afterwards recommended, applies, with almoſt equal propriety, to every variety of the diſeaſe.

Of all the inflammatory complaints to which the ſyſtem is liable, that ſpecies of the diſorder termed Eryſipelas, is obſerved moſt frequently to terminate in gangrene; and whenever phlegmon is in any degree conjoined with an eryſipelatous affection, which it not unfrequently is, it ſeems thereby to acquire the ſame tendency, by being, as was already remarked, more difficult to bring to ſuppuration than the true phlegmon, and by going on more frequently to the mortified ſtate.

The beſt and moſt effectual means of preventing mortification in every caſe of inflammation, is to endeavour either to obtain its reſolution or ſuppuration; the different remedies for both which purpoſes have already been fully pointed out. But, in ſome caſes, the diſorder is far advanced, and gangrene is already begun, before the ſurgeon's aſſiſtance is called in; and, in others,

others, the inflammation runs ſo high, and proceeds ſo quickly, that gangrene occurs notwithſtanding the uſe of all the remedies that can be applied: In ſome inſtances ſo quickly even, that the inflammatory ſtate is ſcarcely thoroughly diſcerned till mortification appears to be beginning.

§ 2. *Obſervations on Carbuncles as a Species of Gangrene.*

THIS rapid progreſs of the diſorder occurs moſt frequently in caſes of Carbuncles, what by the French are termed Charbons; in which the inflammation proceeds ſo quickly to mortification, that there is ſeldom any evident tumor raiſed, the parts turning black, and ending in real gangrene, often in the courſe of twenty-four hours from the firſt attack.

The quick progreſs uſually made by this diſorder, renders it the worſt and perhaps the moſt dangerous ſpecies of inflammation. For when it occurs internally upon any of the viſcera, as it ſometimes does, it muſt, probably in every inſtance, prove fatal, as no remedies with which we are

acquainted can ever prevent its progreſs towards the laſt ſtage of mortification: Externally, indeed, when they are not very extenſive, and not ſeated on any of the large blood-veſſels and nerves, carbuncles are frequently got the better of; that is, with the loſs of the affected parts.

As carbuncles commonly appear without any evident external cauſe, they are in general moſt probably owing to a ſcorbutic or putrid ſtate of the fluids; for, when putreſcency prevails in the ſyſtem, every inflammatory affection that occurs, proceeds much more readily to the mortified ſtate than inflammation in other circumſtances ever does.

This opinion with reſpect to the cauſe of carbuncles depending upon a putreſcent ſtate of the ſyſtem, is particularly confirmed by their occurring moſt frequently as a ſymptom in peſtilential diſorders; for, although they are ſometimes met with even in this country, where the plague is now never known, yet the real carbuncle

buncle is far from being a common occurrence.

In ſuch inſtances gangrene is very eaſily accounted for, from the prediſpoſition in the ſyſtem to putrid diſorders: but in what manner is it produced by inflammation in other caſes, and where no ſuch diſpoſition can be ſuppoſed to take place? This we ſhall proceed to inveſtigate.

§ 3. *Of the Cauſes of Gangrene.*

An increaſed action in the veſſels of a part, we have already endeavoured to eſtabliſh as the immediate or proximate cauſe of inflammation; and the ſame cauſe, it is preſumed, will, in many inſtances, account for the riſe of mortification.

One evident effect of an increaſed action in the veſſels, in every caſe of inflammation, is a propulſion, into the ſmaller capillaries, of a greater quantity of the more denſe parts of the blood than naturally they were intended to tranſmit. When this is not conſiderable, a due circulation is frequently reſtored in a ſhort time, with-

out any bad conſequence whatever; nay, when an actual extravaſation of the ſerous part of the blood into the cellular membrane has taken place in ſome degree, the fluid is often reabſorbed, and a cure is thus obtained by reſolution. But when ſuch extravaſation from a farther increaſe of this undue action of the veſſels has taken place to a ſtill greater degree, ſuppuration is then moſt frequently the conſequence.

When, again, a ſtrong exciting cauſe is applied to a conſtitution already prediſpoſed to inflammatory complaints; as a lacerated wound, for inſtance, in a young healthy man; the violent irritation, and conſequent increaſed action of the veſſels that enſues, occaſions the red particles of the blood to be likewiſe poured forth together with the ſerum. In this manner a collection of an extravaſated fluid is produced, and the great degree of preternatural heat kept up by the diſorder very readily excites in it ſome degree of fermentation; which, from the nature of the matter it has to act upon, not being able to effect

fect a ſuppuration *, and the craſſamentum of blood being particularly liable to run into the putrid fermentation †, mortification, which we may here conſider as the ultimate ſtage of putrefaction, comes in courſe to be produced.

The diſorder being, in this manner, once raiſed in a part, the progreſs which it afterwards uſually makes, does not appear very difficult to account for. The putreſcent particles of the tumor, by inſinuating themſelves into the cellular membrane of the neighbouring ſound parts, as in this manner they extend the contagion, ſo they very ſoon bring theſe likewiſe to ſuffer. In this way, the mortification continues to advance; till meeting with a part,

 perhaps,

* Mr Gaber, when ſpeaking of his experiments upon the craſſamentum of blood, ſays, that he could never obtain genuine pus from it; and farther adds, "Vero ſimilius ergo *ſanguinem* cæteris puris principiis admixtum, ipſum magis *fœtidum* et deterius reddere, &c." Loco citato, p. 87.

† For ſome animal-ſubſtances, ſuch as urine, the bile, and the craſſamentum of blood, *ſoon* putrefy. Sir John Pringle's Experiments, Appendix, p. vi.

perhaps, naturally more irritable than the others, or which by this time has been rendered ſo by the different remedies to be pointed out, a certain degree of new inflammation comes to be eaſily induced, in conſequence of the ſtimulus which putrid particles muſt always occaſion: This, as it renders the parts more firm and compact, makes them leſs eaſily penetrable by the putreſcent contagion; and a ſuppuration of courſe enſuing as a conſequence of the preceding inflammation, a complete ſeparation of the diſeaſed from the ſound parts is thereby, in general, very ſoon effected.

At leaſt, that ſuch an inflammation, with a conſequent ſuppuration, does, in caſes of real gangrene, always happen before a ſeparation of the diſeaſed parts takes place, is a fact well known to every practitioner; and that the cauſe aſſigned for theſe appearances is the true one, I think, from the different circumſtances taken notice of, is at leaſt exceedingly probable.

Thus the local ſymptoms of gangrene appear

appear to be pretty certainly accounted for: and the ſinking of the pulſe, which, in extenſive mortifications, always occurs, and which is by much the moſt remarkable change that takes place in the general ſyſtem, is a very natural conſequence of that debility, which ſeems to be a conſtant and neceſſary attendant on a putreſcent ſtate of the fluids, from whatever cauſe this may have ariſen; a circumſtance we have particularly demonſtrated in putrid fever, and in ſcurvy, where a languid pulſe and general debility are always conſidered as the moſt characteriſtic ſymptoms.

§ 4. *Of the Prognoſis in Gangrene.*

In every caſe of gangrene, the prognoſis ſhould at firſt be exceedingly doubtful; for even in the ſlighteſt affections of this nature, the ſyſtem, from the contagion it receives by the abſorption of putrid matter, is, in ſome inſtances, ſo much affected, that the patients are ſuddenly car-

ried off, without appearing previouſly to have been in any imminent danger.

In ſuch caſes, however, as ſucceed to inflammation from an external cauſe, where the gangrene is neither very deep nor extenſive, and where it does not ſeem to ſpread, the prognoſtic ought to be much more favourable than in thoſe which ariſe ſuddenly from an internal cauſe, where the mortification runs deep, and more eſpecially when it is ſtill continuing to advance; in which circumſtance the greateſt danger is always to be apprehended.

Indeed, no perſon whatever, with any conſiderable mortification, even from an external cauſe, can be ſaid to be free from riſk, till the diſeaſed parts are not only ſeparated, but even entirely caſt off from the ſound; the poiſon of putrid miaſmata being of ſuch a penetrating and deſtructive nature, that many inſtances have occurred of patients being very quickly carried off, ſeemingly from this circumſtance alone, long after the progreſs of the mortification

tification had ceaſed. In ſuch caſes we preſume, that the putreſcent miaſmata prove deſtructive, chiefly by their deleterious influence on the nervous ſyſtem. In long continued caſes of mortification, the general maſs of fluids may ſometimes ſuffer merely from the abſorption of putrid effluvia; but as patients, labouring under mortification, frequently die ſuddenly, and before any putreſcency has appeared in the ſyſtem at large, we conclude that this moſt probably happens from ſome effect produced either upon the nerves or on the ſenſorium from whence they originate. But in whatever manner the putrid fomes of a mortified ſpot may operate, their influence is frequently found to be ſo pernicious as to warrant the concluſion we have formed; namely, that no perſon, labouring under a real mortification, can be ſaid to be free from danger till all the diſeaſed parts are entirely removed.

§ 5.

§ 5. *Of the neceſſary Remedies in Gangrene.*

In the treatment of Gangrene, when no blood-letting or other evacuation has been preſcribed during the preceding inflammatory ſtate of the diſorder; and when the general ſymptoms of inflammation, particularly a quick, full, or hard pulſe, ſtill continue violent; and eſpecially when the patient is young and plethoric; it then becomes abſolutely neceſſary, even altho' mortification may have commenced, to empty the veſſels a little by one general blood-letting. Which, by moderating the fever, and abating the univerſal heat, proves often a ſure means of preventing the progreſs of the diſorder: and, in this view, blood-letting, in ſuch caſes, may, in reality, be conſidered as an antiſeptic; and it does often, indeed, in this particular ſituation of mortification, prove more powerfully ſo than all the different articles in general enumerated as ſuch.

For the ſame reaſons that blood-letting is recommended, gentle laxatives, and a free

free uſe of acidulated cooling drink, become neceſſary. But, as in the farther progreſs and continuance of mortification, the patient is very apt to ſink, and the pulſe to turn languid, every evacuation, eſpecially of blood, ſhould be directed with much caution, never to a greater degree than may ſeem to be abſolutely neceſſary for *moderating ſuch ſymptoms* as at the time appear to be too violent.

When, again, as is moſt frequently the caſe when the diſorder has made any conſiderable progreſs, the patient is much reduced, either by ſevere evacuations, or merely by the effects of the complaint; when the pulſe is low, and the other ſymptoms of fever not conſiderable; in theſe circumſtances a very contrary treatment becomes neceſſary: the principal indication now being to prevent the ſyſtem from ſinking too much, by a proper uſe of cordials, and eſpecially by thoſe of the tonic kind; while, by the ſame means, we enable it to free itſelf from, or to caſt off, the mortified parts. For, as we have already ob-

obſerved, the ſeparation of gangrenous from healthy ſound parts, being always effected by the intervention of inflammation, it ſhould be our chief care to aſſiſt nature as much as poſſible, in exciting in the ſyſtem, by every proper means, that diſpoſition which, from experience, we know to be moſt favourable for the production of inflammation; which, when ſpeaking of the general prediſpoſing cauſes of inflammatory complaints, we have endeavoured to ſhow, is a full plethoric ſtate of the veſſels, which at the ſame time is generally conjoined with a more invigorated tone of the veſſels themſelves.

It may, perhaps, be imagined, that this indication proves, in ſome meaſure, contradictory to what we lately adviſed with reſpect to the propriety of blood-letting in ſome caſes of gangrene. When properly conſidered, however, it will by no means appear to be ſo. For we well know, that, in every diſorder to which the ſyſtem is liable, an over-doſe of the moſt effectual remedy will often prove juſt as detrimental

as

as a medicine of the moſt oppoſite tendency: and, in the ſame manner, though a certain degree of inflammation is, perhaps, abſolutely neceſſary for the cure of every gangrene; yet, in a very high degree, it becomes always exceedingly hurtful.

With a view to fulfil the intention of this indication, a good nouriſhing diet becomes neceſſary, with ſuch a proportion of generous wine as the patient's ſtrength and ſymptoms of the diſorder may ſeem to require.

By a due attention to this circumſtance of regimen, particularly by a proper allowance of wine, much more real advantage is commonly obtained than ever occurs from the uſe of the whole tribe of ſtimulating warm cordials. When, however, the patient is much reduced, and very languid, ſome of theſe, ſuch as the volatile alkali, and confectio cardiaca, may, at the ſame time, and in ſuch quantities, be preſcribed, as the patient's immediate ſituation appears to render neceſſary.

But

But of all the medicines hitherto uſed in mortification, none proves ſo certainly efficacious as the Cortex Peruvianus, which has often a very evident and powerful influence in putting a ſtop to the diſorder. As it is a very powerful tonic remedy, it may probably act by invigorating the general ſyſtem; and thus, by rendering it more ſuſceptible of that inflammatory tendency, which we have ſhown to be ſo neceſſary for effecting a ſeparation of mortified parts, it may in this manner enable it to free itſelf from them. It may likewiſe, perhaps, in ſome inſtances, act as an antiſeptic, merely by correcting putrefaction; though, in the former mode of operating, its effects, we apprehend, are generally much more conſiderable than in the latter.

In whatever manner the bark operates, however, it can in no caſe of mortification be ever, with propriety, omitted, excepting in the firſt ſtage of the diſorder, while ſeveral of the inflammatory ſymptoms yet remain violent; but, as ſoon as theſe are

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tolerably abated, it may always, both with ſafety and advantage, be employed.

The beſt rule with reſpect to the quantity of the medicine to be exhibited, is to give it always in as large doſes, and theſe to be as frequently repeated, as the ſtomach can eaſily bear. It is a great inconvenience, however, which is found to attend almoſt every caſe of gangrene, that the ſtomach can ſeldom bear a ſufficient quantity of the bark in ſubſtance, which is always, we may remark, the beſt mode of uſing it; but particularly in this diſorder, when none of the finer preparations of the medicine are ever ſo much to be depended on.

Of all the different forms employed for exhibiting bark, I have generally found it fit eaſieſt on the ſtomach when conjoined with ſome of the ſpirituous waters; and to the uſe of which, in ſuch caſes of gangrene as bark itſelf is proper in, there can never be any objection. The following formula is far from being diſagreeable,

and

and I have known it anſwer with patients whoſe ſtomachs rejected every other.

R. Aq. alexiter. ſimp.
cinnamon. fort. *aa* unc. iii.
aromatic. unc. ii.
Pulv. cort. Peruv. ſubtil. unc. ſs. miſce; coch. ii. omni ſemihora ſumendis, agitata phiala.

In this manner a drachm of the bark comes to be taken every hour, which, in general, in leſs than twenty-four hours, has a conſiderable influence in producing a change on the diſorder. A great deal depends upon the medicine being in a fine powder, as patients often bear conſiderable quantities of it in that ſtate, when they reject even very ſmall doſes of a courſe powder.

As a ſpecies of bark has lately been much employed, of a more deep red colour than the kind in ordinary uſe, I think it right to mention the reſult of my own experience of it. I cannot pretend to form any judgment of the effects of this remedy in the cure of intermittents, as, in Edinburgh

burgh and its environs, agues are very rarely met with. But, ſo far as I have yet ſeen, its influence, in caſes of gangrene, and in correcting the thin fetid diſcharge of putrid ulcers, is far inferior to that of the beſt ordinary bark of a brown or cinnamon colour. One very remarkable inſtance of this it may not be improper to mention: A gentleman, for ſeveral years, had laboured under a ſinuous ulcer, the diſcharge of which, once in two or three months, always became thin, putrid, and very acrid. The influence of common bark, in correcting this, was ſo remarkable, that a few doſes of it commonly had a conſiderable effect in rendering the matter thick and much leſs offenſive. From the taſte, and other ſenſible qualities of the red bark, being ſtronger than thoſe of the ordinary kind, I was at firſt inclined to think favourably of it; and among others I preſcribed it to this patient. But although he continued for ſeveral days to take it in the ſame doſes he had always uſed of the other, he did not experience any advantage from

it; while, on the other hand, on the common bark being again employed, the matter from being thin and fetid, was quickly converted into pus of a proper conſiſtence.

One trial, however, is by no means ſufficient for enabling us to form a juſt opinion of any medicine: And accordingly I was reſolved to put it to the ſame teſt in future occurrences of a ſimilar nature. It has now been three times tried in the ſame manner, and the reſult has been always the ſame. The red bark has never produced any change on the nature of the diſcharge, while the influence of the other has been uniformly the ſame. Indeed, our patient is now ſo much convinced of the inefficacy of the former, that it is with reluctance he is induced to take it; although, at firſt, his expectations from it were raiſed very high, not only from the opinion I had endeavoured to give of it, but from the high panegyrics beſtowed on it by others.

This is the moſt remarkable caſe I have met with for comparing the effects of the dif-

different kinds of bark: but I have likewiſe ſeen the red bark fail in other caſes, where the common kind of it proved evidently uſeful; ſo that, although I cannot with certainty ſay that the red bark will never prove uſeful in caſes of mortification, and in ſuch ulcers as we have deſcribed, yet from the reſult of all the experience I have yet had of it, I am inclined to conſider it as of a very inferior nature to the other. Farther obſervation, however, is neceſſary to determine a matter of ſuch importance.

Together with bark, the vitriolic acid is frequently employed with advantage; and the beſt form of uſing it is, by acidulating all the patient's drink with elixir of vitriol.

Theſe are almoſt the only internal remedies to be depended on in caſes of gangrene. Many others, indeed, have been recommended; but all the advantages to be obtained from any of them, may be procured with more certainty from ſome or all of thoſe we have already enumerated.

In the way of external application, we find a variety of remedies pointed out by

authors, and particularly thoſe of the antiſeptic kind; ſuch as all the warm gums and balſams, ardent ſpirits, and even alcohol: and to admit of their nearer application to the ſound parts with a view to the preſervation of theſe from putrefaction, deep ſcarifications through the diſeaſed and into the ſound parts have been generally recommended.

But although ſuch articles may be of uſe in preſerving *dead* animal-ſubſtances from corruption; yet that they will always prove ſerviceable, in the ſame manner, in living bodies, is probably very much to be doubted. And it is even apprehended, by the ſtrong irritation they always occaſion when applied to a living fibre, that, in ſuch caſes as the preſent, they may rather do miſchief; it being only, as we already obſerved, a very ſlight degree of inflammation that is required. The inciſions too, when carried into the ſound parts, with a view to facilitate the operation of ſuch remedies, may likewiſe do harm; not only from the riſk of wounding the blood-veſ-

ſels,

ſels, nerves, and tendons, that lie in the way; but alſo, by allowing a free and farther entrance of the putreſcent fluids into the parts not yet affected: And unleſs they are carried ſo deep as freely to reach the ſound parts, applications of the antiſeptic kind can never have any effect in anſwering the purpoſe for which they are intended. For theſe reaſons, and from never having obſerved any advantages to accrue from ſcarifications, I have long thought that they might be entirely laid aſide *.

* Although I was convinced from experience of what is here advanced againſt the uſe of ſcarifications, as well as of the impropriety and inefficacy of very warm ſtimulating applications in caſes of mortification; it was not without diffidence that I firſt ventured to aſſert it, the opinion at that time being, in this place at leaſt, in a great meaſure new. I am now happy to find, however, in a late publication, the ſame practice recommended from the beſt authority. *Vide* Chirurgical Obſervations by Percival Pott, F. R. S. &c.

In the ſame publication is given a particular deſcription of a ſpecies of mortification incident to the toes and feet, in which Peruvian bark has little or no influence, and in which opium, given in large doſes, frequently repeated, proves a very effectual remedy.

Theriac was, in former times, and ſtill is with ſome practitioners, a very common application in every caſe of gangrene; but from any opportunities I have had of ſeeing it uſed, I cannot ſay that it ever ſeemed to produce any evident good effects.

All the advantages commonly derived from the great variety of applications recommended for gangrene, are obtained with more eaſe, and generally too with more certainty, from the uſe of any gently ſtimulating embrocation; which, by exciting a ſlight irritation upon the ſurface, and eſpecially when aſſiſted by a free uſe of the bark, as was already directed, at laſt commonly produces ſuch a degree of inflammation as is wiſhed for. With this view, I have frequently known a weak ſolution of ſal ammoniac in vinegar and water anſwer exceedingly well; a drachm of the ſalt to two ounces of vinegar and ſix of water, form a mixture of a very proper ſtrength for every purpoſe of this kind; but the degree of ſtimulus can be eaſily either increaſed or diminiſhed according to circum-

cumſtances, by uſing a larger or ſmaller proportion of the ſalt.

Although, for the reaſons we have already advanced, inciſions may not, in general, be proper; yet, whenever the mortification runs very deep, it is of ſervice to make ſcarifications into the diſeaſed parts, ſo as to remove a portion of them, which, by taking off a conſiderable load, perhaps, of putrid dead matter, not only leſſens the fetor, which in ſuch caſes is always conſiderable; but often renders it more eaſy for the ſound parts to free themſelves from the remainder: When with this view, however, inciſions are employed, care ſhould always be taken that they be not carried the length of the ſound parts.

Whenever, either by the means we have recommended, or by the effects of a natural exertion of the ſyſtem, a ſlight inflammation begins to ariſe between the diſeaſed and ſound parts, we may in general, with tolerable certainty, expect, that, in due time, a thorough ſeparation will take place: and, when a full ſuppuration has

fairly commenced, there then can be little doubt but that the mortified parts will be very ſoon and eaſily removed.

A ſeparation being completely effected, the remaining ſore, which is then to be conſidered merely as a ſimple purulent ulcer, may be treated in the ſame manner as ſuch ſores generally are, with very ſlight eaſy dreſſings; at the ſame time that proper attention muſt always be paid to ſupport the ſtrength of the ſyſtem, by the continuance of a nouriſhing diet, the bark, and ſuch quantities of wine as may ſeem to be neceſſary.

Although ſuch ulcers, however, as remain after gangrenous affections that have not been very extenſive, may, in general, be healed in the manner now mentioned; yet, in mortifications ſeated on the extremities, and which have penetrated to the bones, it ſometimes happens that the whole ſurrounding ſoft parts come to be deſtroyed, ſo that amputation of the member is thereby rendered neceſſary. But we ſhould never have recourſe to amputation till a full

and

and thorough ſeparation of the mortified parts has taken place: ſo that it ought, in every caſe of gangrene, to be held as an eſtabliſhed maxim, never to amputate a member till a full ſtop has been put to the diſeaſe, or even till a complete ſeparation of the mortification from the ſound parts has been produced. For although the parts immediately contiguous to thoſe *evidently* diſeaſed, may outwardly appear to be ſound, yet there can never be any certainty of thoſe, even directly below, remaining ſo till a ſeparation occurs; ſo till this has evidently taken place, we can never have any ſecurity for the diſorder not returning, and perhaps immediately too, upon the remaining ſtump.

It muſt be obſerved, however, that as ſoon as an entire ſeparation of the gangrene has occurred, no time ſhould be unneceſſarily loſt in putting the operation in practice; for, as long as any of the corrupted parts remain in contact with the ſound, the ſyſtem muſt ſtill be ſuffering conſiderably,

ably, by the conſtant abſorption of putreſcent particles, that ſo long will undoubtedly take place.

CHI-

CHIRURGICAL ESSAYS.

PART II.

On the Theory and Treatment of ULCERS.

SECTION I.

Obſervations on Ulcers in general.

BY different authors very different definitions have been given of the term Ulcer: But what in general ſeems to be underſtood by it is, A ſolution of continuity in any of the ſofter parts of the body, diſcharging

diſcharging either pus, ſanies, or any other vitiated matter; and this, whether the complaint may have originally proceeded from an internal or an external cauſe.

Many writers, indeed, have confined the term to ſuch ſores as are the conſequence of ſome internal diſorder of the ſyſtem. But in this they have certainly erred: for even the moſt ſimple wound, not in the leaſt connected with any other diſeaſe, if it does not heal by what is called the firſt intention, without the formation of matter, muſt, in its progreſs towards a cure, always end in an ulcer.

Although, in compliance with cuſtom, we have, in the definition, confined the ſeat of ulcers to the ſoft parts only; yet that ulcers of the bones do likewiſe occur, is certain. Thus every ſpecies of caries attended with loſs of ſubſtance, may, with propriety, be termed an ulcer; and it is ſo in reality, both in its appearances and effects.

But, in order to prevent ſuch confuſion as commonly occurs from the introduction

of

of more diſtinctions than are abſolutely neceſſary, I mean to conſider caries as an accidental ſymptom of ulcers, and to ſpeak of it under the general denomination of Carious Ulcer.

Ulcers have been commonly diſtinguiſhed by different appellations, according to ſome particular circumſtance attending them; and different methods of cure have accordingly been pointed out for each. And if theſe had been taken from characteriſtics ſufficiently diſtinct, and of any real conſequence either in the theory or treatment of the different diſorders, they would certainly have been material, and ought to be retained. But as it is evident, that many of them have been formed from circumſtances either not very obvious, or from ſuch as are merely accidental, and that do not, therefore, afford any real diſtinction, to adhere to theſe could never be productive of any advantage; and might even, it is preſumed, frequently do miſchief, by leading to a more complicated practice, when a much more ſimple treatment

ment would probably anſwer the purpoſe.

The different circumſtances from which ulcers have received their denominations, are,

1. From the general appearances of the ſolids in the parts diſeaſed: as the Callous, Fungous, Fiſtulous, &c.

2. From the nature of the matter diſcharged: as the Ichorous, Sordid, and Purulent; from their diſcharging a thin ichor, a more viſcid glutinous kind of matter termed ſordes, and purulent matter.

3. From their duration; as the Recent, and Habitual.

4. From the attendant ſymptoms being mild or violent, they are denominated Benign or Malignant. And,

5. They have been termed Venereal, Scorbutic, or Scrophulous, according as they have been ſuppoſed to be connected with the Lues Venerea, the Scurvy, or Scrophula.

Though it may be proper for practitioners to

to be acquainted with theſe and other terms that have been uſed, in order more accurately to underſtand the meaning of authors, and to explain to one another the appearances of diſeaſes; yet it is exceedingly obvious, that many of the diſtinctions we meet with in books, have been taken from circumſtances quite too trivial to have any real influence on the diſorders, and which conſequently can have no other effect than to embarraſs and perplex all ſuch as enter upon the ſtudy of this branch of practice.

§ 1. *Of the Arrangement of Ulcers.*

THE following arrangement of ulcers, at the ſame time that it appears to be exceedingly ſimple and natural, comprehends every ſpecies of the complaint that can occur; and, if duly attended to, will, we hope, render the method of treating them more effectual, and at the ſame time more certain than in general it is found to be.

Ulcers, then, may be divided into two gene-

general claſſes. In the firſt we mean to comprehend all ſuch as are merely local, and that do not depend upon any diſorder of the ſyſtem.

In the ſecond claſs all ſuch ulcers are included as are the conſequence of, or that are connected with, any diſorder of the conſtitution.

The importance of ſuch a claſſification appears evident from the very great difference in the treatment, which undoubtedly ſhould take place, between ulcers that are only topical affections, and ſuch as are connected with any diſorder of the ſyſtem. It is frequently, indeed, from want of due attention to a diſtinction of this nature, that the treatment of ulcers is rendered ſo tedious and uncertain as it very often is. For, by forming a diagnoſis too haſtily, and by treating an ulcer that is merely a topical affection, with remedies directed to ſome diſorder of the general ſyſtem, many are forced to undergo very unneceſſary courſes of medicine, and may thereby have their conſtitutions irreparably hurt.

A contrary error, again, not unfrequently happens, which is ſometimes attended with very diſagreeable conſequences, namely, the treating, as ſimple local affections, thoſe ulcers which are certainly owing to ſome general diſorder of the habit; and which it is, therefore, in vain to expect to cure by topical remedies only, unleſs the diſeaſe of the conſtitution be at the ſame time attended to. Sometimes, too, an ulcer is treated as a diſorder of the conſtitution; but, by miſtaking the nature of the complaint, which of courſe muſt occaſion a miſapplication of remedies, the cure of the ſore is thereby not only greatly retarded, but the ſyſtem in other reſpects is often brought to ſuffer very materially.

Thus, an ulcer connected with a ſcorbutic habit of body, is not unfrequently miſtaken for, and treated as, a leprous, or perhaps a venereal affection; a circumſtance which muſt undoubtedly lead to a kind of practice that will frequently be attended with diſagreeable conſequences.

The only cauſe that can occur, to occa-

ſion ſuch miſtakes in practice, is the want of a proper ſet of diagnoſtic ſymptoms for the ſeveral ſpecies of ulcers. This, in the enſuing ſections, we have in ſome meaſure endeavoured to remedy, by enumerating, as clearly and conciſely as poſſible, the different characteriſtic ſymptoms of each: the ſeveral varieties we have mentioned contain every diſtinction of importance; but as they are not near ſo numerous as thoſe commonly enumerated by authors, the means of diſtinction we have propoſed will probably characteriſe them with more preciſion than ulcers in general have hitherto been.

But before going on to the particular conſideration of the different ſpecies of the diſorder, it will not be improper, in the firſt place, to make a few obſervations upon ulcers in general; and firſt with reſpect to their cauſes.

§ 2. *Of the Cauſes of Ulcers in general.*

THE cauſes which, in different circumſtances,

ſtances, may give occaſion to ulcers, are exceedingly various; but in general they are found, on examination, to ariſe from one or other of the following nature.

1. From ſuch as may be termed Occaſional or Exciting Cauſes: Of which kinds are, wounds in general—bruiſes ending in ſuppuration — burns — and inflammation, from whatever cauſe it may have ariſen, when it terminates either in gangrene or ſuppuration.

2. From ſuch as with propriety may be termed Prediſpoſing Cauſes; of which kind are conſidered, all diſorders of the ſyſtem in general, attended with determinations to, or affections of, particular parts: ſuch as fevers of all kinds that terminate in what are called Critical Abſceſſes—alſo lues venerea—ſcrophula—and ſcurvy.

3. Ulcers may proceed from a combination of the two foregoing cauſes. Thus a ſlight ſcratch, or excoriation, that in a ſound conſtitution would heal without any trouble, in a habit tainted with any

of the above-mentioned diſorders will frequently produce a very diſagreeable and tedious ulcer.

§ 3. *Of the Prognoſis of Ulcers in general.*

THE cauſes of ulcers being ſo very various both in their nature and effects, the prognoſis to be given in all ſuch complaints muſt, it is evident, be no leſs ſo.

1. It muſt depend upon the nature of the different exciting cauſes that may have given riſe to the diſorder.

2. Upon the ſituation of the ſores; and,

3. On the time of life and habit of body of the patient at the time.

With reſpect to the firſt of theſe, it is evident, that the occaſional cauſe muſt have a very conſiderable influence on the nature of the complaint. Thus an ulcer proceeding from a ſimple wound, inflicted with a clean cutting inſtrument, will, cæteris paribus, always heal more eaſily, than one that has been the conſequence, either of a ſevere bruiſe, or of a wound from a foul ragged inſtrument.

It

It is likewiſe found, that punctured wounds are much more difficult of cure, than ſuch as have large free openings; and this again may be owing to two different reaſons.

1. To the want of a free exit to the matter; which, in punctured wounds, is very apt to inſinuate itſelf between the common teguments and muſcles, and even between the interſtices of the different muſcles themſelves: a circumſtance that frequently lays the foundation of very troubleſome ſinuſes.

2. Pain and inflammation are always much more troubleſome in wounds occaſioned by punctures, than in thoſe where the parts have been freely and extenſively divided. For it is found by experience, that the irritation occaſioned by the partial diviſion, either of a nerve or of a tendon, proves always much more conſiderable than when the parts have been thoroughly cut in two; And hence has ariſen the practice of enlarging all ſuch wounds; which often carries off the pain and in-

flammatory ſymptoms more effectually, than all the applications and remedies that in ſuch caſes are generally recommended.

Secondly, The cure of ulcers, it was obſerved, is conſiderably influenced by their ſituation; and this, we may remark, is the caſe in two different reſpects.

1. With reſpect to the nature and organization of the parts on which they are ſeated; and,

2. As to their ſituation on the trunk of the body, or on the upper or lower extremities.

Thus it was long ago remarked, and it has ſince been confirmed by experience, that ulcers in the ſoft fleſhy parts heal much more eaſily, than when the tendons, aponeuroſes of muſcles, glands, perioſteum, or bones, are affected.

The pain occaſioned by ſores in the ſoft muſcular parts is not ſo conſiderable, the diſcharge is generally better-conditioned, and the cure commonly advances more quickly, than when any of the other parts are the ſeats of the diſorder: And, on the other

other hand, whether ulcers are ſeated in the cellular membrane, in the tendons, perioſteum, or bones, their cure is always obſerved to go on much more eaſily when ſeated in the trunk of the body, than on any of the extremities; and of theſe, again, the legs and feet are found by every practitioner to be the moſt troubleſome ſituation for ſores of every kind.

The depending ſituation of the latter ſeems to be the principal cauſe of ſuch a difference: for the fluids having, in them, to proceed in a direction quite contrary to their own gravity; and this too at ſuch a conſiderable diſtance from the heart, where the influence of that organ cannot be material; whenever any of the parts happen to loſe their tone, or by any accident ſuffer in their arrangement, ſwellings, eſpecially thoſe of the ſerous kinds, very naturally occur. And, when ſuch ſwellings do ariſe in the neighbourhood of ulcers, by occaſioning too great an afflux of matter to the ſores, the diſcharge at laſt becomes vitiated in its quality likewiſe; and thus the cure

is protracted, till the parts, by reſt and proper management, have again recovered their natural tone.

It is from this circumſtance chiefly, that a material part of the cure in ulcers of the legs is found to be obtained from reſt, and in keeping the limb in an horizontal poſture. One great advantage too of the laced ſtocking, in ſuch caſes, conſiſts in its tendency to prevent theſe kinds of ſwellings: This will hereafter, however, be more particularly taken notice of.

The ſituation of ulcers, with reſpect to the neighbourhood of large blood-veſſels and nerves, from the danger of theſe at laſt becoming affected, muſt, likewiſe, have a conſiderable influence on the prognoſis; as ought alſo their being ſeated upon, or very near to, any of the large joints; or there being any riſk, from their ſituation, of the matter penetrating into either of the cavities of the cheſt or abdomen.

It was, in the *third* place, obſerved, that the prognoſis, in every caſe of ulcer, ſhould be

be much influenced by the age and habit of the patient.

Thus, in young healthy people, all the ſecretions are commonly better proportioned, both in quantity and quality, than in the old and unhealthy, in whom the ſecreting organs are ſeldom capable of performing rightly their different functions: And, as the different diſcharges from ulcers are to be conſidered almoſt entirely as ſecretions from the general maſs of fluids, their being of a good or of a bad quality, muſt of courſe depend ſo much on a healthy ſtate of the ſolids, that it cannot appear ſurpriſing, their being ſo much influenced by the general health of the patient.

The cure of ulcers depending, therefore, upon ſuch a number of circumſtances, a juſt prognoſis, it is evident, can only be obtained from a due attention to all their varieties.

§ 4.

§ 4. *The Cure of every Ulcer may, with certain Cautions, be ſafely attempted.*

WITH reſpect to the *treatment* of ulcers, the firſt circumſtance to be determined, is the propriety of attempting a cure or not. That it is proper to endeavour to heal every recent ſore, is univerſally allowed; but when ulcers have been of long continuance, or when they appear to have had any effect either in carrying off or in preventing any diſorder to which the conſtitution may have formerly been liable, it has always been conſidered as dangerous to attempt their cure: And, accordingly, almoſt every author who has written upon the ſubject, has expreſsly determined againſt it, as being a hazardous, and even a dangerous practice.

Such ulcers as have afforded a copious diſcharge, and have been of very long ſtanding, it would no doubt be exceedingly imprudent all at once to heal up, as the ſyſtem might very probably ſuffer from the

the ſudden retention of a conſiderable quantity of fluids, which it had been accuſtomed for a long while to throw off by means of ſuch drains. Many caſes, indeed, have ended fatally upon ſuch ulcers drying up ſuddenly, either of their own accord, or by the imprudent uſe of aſtringent applications.

On the other hand, however, the trouble ariſing from a foul extenſive ſore, diſagreeably ſituated, and which is probably to continue for life, is an inconvenience which none but very old or inactive people can be ſuppoſed willingly to ſubmit to: and, therefore, the diſcovery of ſuch a courſe as can render it ſafe for patients to attempt the removal of ſuch diſorders, becomes at once a moſt important object.

With a ſmall degree of caution, the cure of every ulcer, we think, may be attempted; the only requiſite precaution, before entering upon the means neceſſary for this purpoſe in habitual ſores, being the introduction of ſome other drain, by means of a pea-iſſue or of a cord: The former of theſe is managed with the greateſt eaſe;

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and, by increaſing or diminiſhing the ſize and number of peas made uſe of, the quantity of matter may be increaſed or diminiſhed at pleaſure.

§ 5. *Of the Effects of Iſſues in the Cure of Ulcers.*

An iſſue of this kind being introduced, and having come to diſcharge properly, and in quantity nearly equal to what the ulcer afforded, the cure of the latter may be then carried on with the greateſt freedom; and if the ſore has not been of very long ſtanding, the ſize of the iſſue may be gradually leſſened, till it is brought to contain a ſingle pea only, which will produce a conſtant diſcharge, with very little trouble.

But when, on the contrary, the ulcer has been of very long continuance, and eſpecially if it ſeems to have been inſtrumental in preventing any other formidable complaint; in this caſe, the iſſue ſhould undoubtedly be continued of the ſame ſize for life: but even this may be done with

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no great inconvenience, at leaſt in compariſon with the trouble attending a large ulcer.

This practice might, we think, from reaſoning alone, be conſidered at leaſt as ſafe. For, if a drain equally copious is firſt introduced, and is afterwards kept running, the healing of the ulcer for which it was ſubſtituted, however old it may have been, cannot, probably, in theſe circumſtances, be productive of any harm to the conſtitution. And I can ſay, from much experience in this branch of ſurgery, that nothing commonly proves more effectual in the cure of old ulcers than iſſues; and I never knew an inſtance of their being attended with any material inconvenience.

The objections that have been made to the practice here recommended, are,

1. That an artificial iſſue, to be continued for life, is almoſt as troubleſome and diſagreeable in its management as a natural ulcer. And,

2. That nature having been for a long time accuſtomed to the diſcharge of a particular

ticular kind of morbid matter afforded by the ulcer, we ought not therefore, by innovations, to run any riſk of diverting her ſtated and uſual operations.

The firſt of theſe arguments is very eaſily, and has already, indeed, been partly anſwered; for it cannot be readily admitted, that a ſimple iſſue, for which we can chooſe the moſt convenient ſituation, will ever prove ſo troubleſome as a large ulcer, and which is probably, too, very inconveniently ſituated. Of this, indeed, we have evident demonſtration, from daily experience; there being few complaints more perplexing to patients than extenſive ulcers; eſpecially when the diſcharge is ſo thin and acrid as to fret the neighbouring parts, and which is not unfrequently the caſe.

§ 6. *The Effects of Ulcers on the Conſtitution depend more on the Quantity than on the Quality of the Matter diſcharged.*

THE other objection alledged againſt the practice of healing old ulcers, is, as was already

ready obſerved, the ſuppoſed danger ariſing to the conſtitution, from the retention of a particular kind of morbid matter, which by their means it had been accuſtomed to throw off.

By the ſupporters of this objection it is ſaid too, that although the matter of an iſſue may be equal in quantity to that afforded by an ulcer; yet that its being of a different quality muſt render the diſcharge much leſs ſalutary.

And it muſt be acknowledged, that we do almoſt univerſally obſerve the greateſt difference between the matter of an iſſue, and that which is diſcharged from an ulcer; from the latter it being frequently thin, ſharp, and acrid, whereas a mild bland pus is the moſt common diſcharge from iſſues.

The foregoing argument, at firſt ſight, appears very concluſive; and it has probably, with many, been the principal reaſon for rejecting the practice in queſtion. Upon due conſideration, however, it will not, it is preſumed, be found to be of much importance; and that it is more owing to

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the quantity diſcharged by ulcers, than to the quality of the matter, that they prove uſeful to the conſtitution or otherwiſe, will, with very little reflection, be rendered exceedingly evident.

Thus it is obſerved, that the ſtoppage of even a pea-iſſue, though it may never have diſcharged any thing farther than the mildeſt and moſt ſimple pus, if it has been of long continuance, proves equally dangerous to the conſtitution as the ſtoppage of an ulcer that has diſcharged nothing but matter of the moſt acrid kind: a circumſtance which could by no means be the caſe, if the common opinion was well founded, namely, that the bad effects of drying up old ſores are to be attributed ſolely to the retention of a noxious matter, which had formerly been diſcharged by them.

And, that the quantity merely of matter diſcharged, ſhould, independently of every other circumſtance, have a conſiderable influence on the ſyſtem, cannot appear in the leaſt ſurpriſing, when we reflect

flect on the very conſiderable proportion of fluids requiſite for the ſupply of an iſſue, of even a moderate ſize, with pus. For, independent of the quantity that appears and is diſcharged at the different dreſſings, a large exhalation and abſorption likewiſe of the more thin ſerous parts is conſtantly and at all times going on; which circumſtance alone accounts for the debilitating effects frequently produced by iſſues, which in point of ſize appear very inconſiderable *.

Were we, indeed, certain that ſuch acrid and putreſcent matters, as are frequently diſcharged by ulcers, previouſly exiſted in the maſs of blood, and that ſuch ſores ſerved merely as drains for theſe; this would, no doubt, prove a very weighty argument: but as it is probable, and indeed, I may

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* Upon this ſubject Sir John Pringle remarks: "As "near as I could gueſs, an ounce of ſerum, upon ſtanding ſome days, did not furniſh more of this matter, "viz. Pus, than what might be produced by the daily "running of a pea-iſſue, or of a ſeton." Vid. Exper. xlv. Appendix to Diſeaſes of the Army.

ſay, certain, that it is by the ulcer only that ſuch kinds of matter are formed, and that none of them previouſly exiſted in the blood, we are induced therefore to conſider this argument as of little or no importance.

Very little conſideration, indeed, will make it appear, that no ſuch varieties of matter, as are frequently obſerved to flow from ulcers, ever exiſted in the blood. No analyſis of the blood has ever been able to diſcover them. Nor can it be conceived, how fluids ſo acrid, and ſo different from the blood of a healthy perſon, can circulate in the delicate and irritable veſſels of the human frame, without producing dangerous or even fatal effects. Now it is well known, that the diſcharge from ſome kinds of ulcers, eſpecially from thoſe generally termed Phagedenic, is often ſo acrid, as not only to excoriate the ſurrounding parts, but even ſometimes to render it dangerous for a ſurgeon to apply the neceſſary dreſſings.

The diſcharge which occurs from the eyes,

eyes, in ſome inſtances of ophthalmia, has been known too to be ſo acrid as to corrode the neighbouring parts; and the ſerous evacuation produced by bliſters, although commonly inoffenſive, is ſometimes poſſeſſed of a great deal of acrimony.

In ſome caſes of ſcurvy, indeed, a conſiderable degree of putreſcency, even of the blood itſelf, does, no doubt, frequently take place: but it is not in ſuch ulcers as occur in this diſeaſe, that ſuch very acrid corroſive humours, as we are now deſcribing, are ever obſerved; the phagedenic ulcer of authors, being a very different diſorder from the true putrid ulcer, as deſcribed by Lind and other writers on ſcurvy.

Beſides, though it were really proved that theſe kinds of matter actually did exiſt in the blood, even in a completely formed ſtate, how is it poſſible, that by means of ſuch ulcers, or any other drains, the morbid fluids chiefly ſhould be evacuated, and ſuch only left behind as are mild and innoxious? A circumſtance which, how-

ever improbable it may appear, has always been aſſerted by the ſupporters of the opinion in queſtion.

The obvious inſufficiency of this theory ſhould induce us to reject it, though we could not propoſe a more ſatisfactory opinion in its place. But, as the various appearances and alterations which take place in the diſcharge of ulcers, ſeem evidently to depend in a great meaſure on ſome peculiarity of the ſolids or ſecretory organs connected with them, we are therefore more eaſily induced to conclude, that other ſuppoſitions do not merit our attention.

The general ſeat of ulcers is in the cellular membrane. Now it is well known, that naturally there is ſecreted into the cells of this membrane, as there is into every cavity of the body, a thin tranſparent ſerum, the principal intention of which is to keep theſe moiſt, and to facilitate the actions of ſuch muſcles as are connected with it. It is this chiefly, with a greater proportion of the coagulable part of the blood, which, with a due degree of heat, as

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was elſewhere remarked, forms that matter which we call pus; and which we ſuppoſe, and indeed find, to be the natural diſcharge of ulcers in a ſound healthy ſtate of the body; and it is ſome change induced upon the nature of this fluid which occaſions the varieties in the diſcharges from ulcers, and from the ſame ulcer at different times.

Such changes, though they may frequently be, in ſome degree, influenced by different circumſtances, as will hereafter be obſerved, muſt yet, in a great meaſure, depend upon ſome particular affection of the veſſels that ſeparate ſuch fluids from the blood: for, by means of an external topical application merely, we can often change the appearance entirely of the matter of an ulcer; which in that manner we could never do, if the change produced upon it depended on an alteration effected on the general maſs of blood.

According to the nature of the exciting and other cauſes of ulcers, it is not unreaſonable to ſuppoſe, that very conſiderable

differences will occur in their effects upon the ſecreting organs to which they are applied. Thus, it may readily be preſumed, that a burn will produce a very different effect from a cut, a bruiſe from a puncture, &c.; and that likewiſe, according to the particular ſtate of the patient's health at the time, very conſiderable differences will in the ſame manner take place.

In what manner theſe different cauſes operate in producing ſuch various effects upon the ſolids or ſecreting veſſels of ulcers, is not, perhaps, to be ſo eaſily explained, nor can we determine preciſely what the particular changes they induce upon ſuch parts really are. But, as all the cauſes of ulcers, with which we are acquainted, are of an irritating or ſtimulating nature, it is probable they all act by producing ſome inflammatory affection on the extremities of ſuch veſſels as empty into the ſores; and therefore, that the nature of the diſcharge will in every reſpect depend much upon the degree of inflammation thus raiſed.

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We have endeavoured to ſhow in the preceding part of this work, that one certain effect of inflammation is to propel a greater quantity of the red globules of the blood into the ſmaller ſets of veſſels than naturally they are intended to tranſmit. This, when it occurs in veſſels diſcharging their contents into ulcers, and eſpecially when the inflammation is conſiderable, will render the matter very different, both in colour, ſmell, and acrimony, from genuine pus, which we have already demonſtrated to be produced from pure ſerum only.

Upon this principle it is evident, that many of the varieties of matter which we meet with in ſores may be accounted for: But other circumſtances likewiſe occur, which have ſome influence in producing many of the alterations that are obſerved. The degree of heat eſpecially, in which the part is kept, as will afterwards be more particularly remarked, and the remora of the fluids for a longer or ſhorter time in the cavities of ſores, muſt have no ſmall influence in many reſpects, but eſpecially

on the degrees of conſiſtency obſerved in them.

From one or other of theſe circumſtances, or from different modifications of all of them, the various appearances in matter afforded by wounds and ulcers, are very clearly explained, without having recourſe to that inexplicable doctrine of their preexiſting in the ſyſtem. But although the caſe were otherwiſe, and that the ſeveral differences obſerved could not be ſo eaſily accounted for; yet that they depend in a great meaſure on ſome *peculiar action or conformation* of the veſſels in the part affected, ſeems to be ſtill more evident and probable than any other opinion hitherto advanced; and is juſt as certain as a great many circumſtances under our daily obſervation, that we cannot in any manner account for, and yet have no ſort of doubt as to their reality.

Thus, in what manner the nerves, which in their ſtructure are all ſo ſimilar, act in the production of hearing, viſion, taſte,

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and all the different ſenſes, is, perhaps, impoſſible ever to determine; as is alſo the action of the liver, ſecretory organs of the mouth, ear, &c. in producing fluids of ſuch different natures from the ſame maſs of blood, and which did not previouſly ſeem to exiſt in it: Only that the facts are ſo, nobody pretends to doubt: And till the contrary is evidently demonſtrated, we have the ſame reaſon to believe, that the different appearances of ulcers with reſpect to the varieties of matter afforded by them, are at leaſt more frequently owing to ſome of the local cauſes we have enumerated, than to any indiſpoſition of the general maſs of blood.

I have ſaid more frequently only, becauſe there are, no doubt, ſome particular caſes of ſcurvy and of other putrid diſeaſes, as we have formerly remarked, in which the blood is ſo much diſſolved, as to run off by ulcers and other drains in the form of a bloody ichor: ſuch caſes, however, occur very rarely, except in high degrees of the true ſcurvy, which are not often

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met with in any country; and, although they were more frequent than they really are, they could never account for all the varieties of matter afforded by ulcers.

The principal objection, therefore, that has been made to the healing of long continued ulcers, ſeems, on being examined into, to be no better founded in theory, than it is, as we have formerly remarked, on real experience. For, although it has been ſtrongly inculcated by the generality of authors never to attempt the cure of ſuch ſores, yet all of them have probably been either biaſſed by that favourite opinion of morbid matter in the ſyſtem; or, a few having led the way and laid down principles, the reſt have indiſcriminately copied from them, without having recourſe to experience.

Nay, we even imagine, and indeed it is pretty evident, that long continued ulcers, inſtead of proving ſerviceable to the conſtitution, are not unfrequently attended with a good deal of riſk and danger. Thus, it is very common for ulcers on the ſhin

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and other parts immediately above the bones, to penetrate ſo deep as to affect the perioſteum, and ſometimes even the ſubſtance of the bones themſelves; which always produce very troubleſome and often dangerous carioſities; every riſk of which is avoided by having recourſe to an iſſue in a proper ſituation, at the ſame time that every advantage is obtained from it as a drain.

The conſtitution muſt likewiſe, in another reſpect, ſuffer much more from the long continuance of an ulcer, than it ever can do from the ſubſtitution of an iſſue: For it will ſurely be acknowledged, that a very conſiderable part of the matter ſecreted by ulcers, muſt be again taken into the ſyſtem by the lymphatics; and when it happens to be of a corroſive irritating nature, which in old ſores it frequently is, not only the general maſs of fluids, but even the ſolids themſelves, muſt thereby in time become greatly vitiated.

Accordingly, there is nothing more common, than very troubleſome and even dangerous

gerous obſtructions of ſuch external glands as are ſituated in the courſe of the lymphatics leading from ſuch ulcers; and as the glands ſeated internally are undoubtedly, from the ſame cauſe, liable to the ſame ſort of affections, it ſurely cannot be denied, but that, from this circumſtance alone, conſiderable danger may attend a long continued ulcer.

Thus it appears, that from every conſideration, both with reſpect to convenience and ſafety, the cure of every ulcer ought to be attempted; and, with the previous caution of inſerting an adequate drain, it may always be done without any kind of riſk.

This much it was thought neceſſary to ſay in general, with reſpect to the propriety of attempting the cure of ulcers; and I have inſiſted the longer upon this part of the ſubject, as the opinion generally received of it appears to be very ill founded, and not adopted from experience, but from hypothetical reaſoning alone.

When the healing of an ulcer, then, is

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to be attempted, the method to be purſued for its accompliſhment muſt next be attended to. By almoſt every author who has given directions on this ſubject, four different ſtates, as they are termed, are enumerated, as being neceſſary for an ulcer to go through in its progreſs towards a cure, namely, thoſe of digeſtion, deterſion, incarnation, and cicatriſation; and various remedies have been recommended as proper for the different ſtates, and for theſe only: And, upon this part of the ſubject, it may be obſerved, authors have ſpoken with as much certainty and preciſion, as if every circumſtance in the treatment of ulcers could be regulated at diſcretion.

Thus all the different kinds of turpentines, as likewiſe the unguentum Ægyptiacum, powders and tinctures of myrrh, euphorbium, aloes, &c. are pointed out as digeſtives: as detergents, unguentum baſilicon, linimentum Arcæi, mercurius precipitatus ruber, &c.: with a view to promote incarnation, or the growth of new granulations, powders of maſtich, thus, &c.:

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and as cicatriſers to accompliſh the cure, we find recommended a variety both of ſimple and compound applications, particularly all the aſtringent boles, earths, lime-water, &c.

Such a number of diviſions, however, in the ſeveral ſtates or ſtages of ulcers, with the conſequent indications of cure, and remedies recommended for the accompliſhment of theſe, has had a conſiderable tendency to render the treatment of ſuch diſorders more complicated than we find from more late obſervation to be in any degree neceſſary. The indications pointed out in the following ſections, we hope, will appear to be juſt and ſimple; and the effects of the methods of cure we have recommended, will probably be found much more conſiderable than thoſe which commonly reſult from a more complex treatment.

We now proceed to a particular conſideration of the different claſſes and ſpecies of ulcers; and in pointing out the ſeveral diſtinctions, it will be obſerved, as we formerly hinted, that they are obvious circumſtances

cumſtances only, and ſuch as at the ſame time indicate and require ſome peculiarity in the method of treatment, that are allowed to have any influence in characteriſing a ſpecies.

Thus, thoſe of the firſt claſs, will all of them, in their appearances, be found very different from one another; and all of them will likewiſe require ſomething peculiar in the method of cure: And again, thoſe of the ſecond claſs, it is preſumed, are equally well diſtinguiſhed, and by ſimilar circumſtances, not only from one another, but from every one that with propriety could be conſidered as belonging to the preceding claſs.

In the firſt diviſion of ulcers we comprehend, as was formerly remarked, all ſuch as are merely local, and that are not connected with any diſorder of the conſtitution; and, in this view, we mean to conſider the following different ſpecies, *viz.*

1. The ſimple purulent ulcer.
2. The ſimple vitiated ulcer.

3. The

3. The fungous ulcer.
4. The ſinuous ulcer.
5. The callous ulcer.
6. The carious ulcer.
7. The cancerous; and,
8. The cutaneous ulcer.

In the ſecond claſs of ulcers all ſuch ſores are meant to be included as are the conſequence of, or that are connected with, any diſorder of the ſyſtem. The different ſpecies of which are, the venereal—the ſcorbutic—and ſcrophulous ulcers.

It is propoſed, as being firſt in order, to go through the conſideration of the ſeveral ſpecies of ſores contained in the firſt claſs; and to proceed afterwards, in courſe, to thoſe enumerated in the ſecond diviſion.

SEC.

SECTION II.

Obſervations on the ſimple purulent Ulcer.

§ 1. *Of the Symptoms, Cauſes, and Prognoſis, of the ſimple purulent Ulcer.*

BY the ſimple purulent ulcer, is meant, that ſpecies of ſore, which is entirely a local affection, and is attended with a very inconſiderable degree of pain and inflammation, whilſt the diſcharge afforded by it is always of a mild purulent nature, and of a proper conſiſtence.

This ſpecies of ulcer is fixed upon as the firſt to be treated of, from its being the moſt ſimple that can occur, both in its ſymptoms and method of cure. And, as it is to the ſtate of ſuch an ulcer that every other ſpecies of the diſorder

muſt be reduced before a permanent cure can be obtained, we ſhall be more particular in our obſervations with reſpect to it than otherwiſe might be neceſſary: When we come too to treat of the different varieties of ulcers, if the treatment of theſe ſhall at any time coincide with that which we are now conſidering, proper references, in order to prevent repetitions, will always be made to what may be here advanced.

Together with the circumſtances already mentioned in the definition of this ſpecies of ulcer, it is not improper here to remark, that the granulations which ariſe in it are of a firm, freſh, red, healthy appearance; and, if no unforeſeen accident occurs, the cure, in general, goes on regularly, and without interruption, till a cicatrix is produced.

In conſidering the origin of the diſorder, it may be obſerved, that even this, the moſt ſimple ſpecies of ulcer, may be produced by a great variety of cauſes; but, from the definition we have given of it, it will be underſtood, that they muſt all be ſuch as

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act merely by producing a local affection, without in the leaſt diſordering the ſyſtem.

In this view we are to conſider wounds of all kinds that do not immediately unite without the formation of matter; and this whether they may have been attended with loſs of ſubſtance or not. Under this head we may rank all chirurgical operations attended with inciſion into any part of the body.

Among other cauſes of ſuch ulcers, muſt be mentioned, burns, in whatever manner they may be produced, whether by fire, aquafortis, ſcalding liquids, &c.; alſo bruiſes; and in ſhort, every external accident that terminates in ſuppuration, with an opening as a conſequence of it.

We do not, however, by any means intend to aſſert, that a ſimple purulent ulcer is always a neceſſary and an immediate conſequence of the different circumſtances we have enumerated; for the very reverſe of this is frequently found to take place. Thus burns, eſpecially, are ſometimes

known to produce very troubleſome vitiated ulcers; and bruiſes, as well as all the other cauſes we have mentioned, are not unfrequently attended with the ſame effect. It is only contended, that ſome one or other of them may in general be conſidered as the primary or original cauſe of ſuch ulcers, independent of any appearances they may exhibit before they are brought into the ſimple purulent ſtate.

With reſpect to the prognoſis in this ſpecies of ulcer, it ſhould almoſt in every inſtance be exceedingly favourable; more or leſs ſo, according as there is a leſs or a greater loſs of ſubſtance, and according to the ſituation of the ſore and habit of body of the patient. Theſe circumſtances being attended to, together with what has already been mentioned upon ulcers in general, there will never remain any doubt with reſpect to the prognoſtic.

Before we proceed to a particular inveſtigation of the means to be employed in the cure of a ſimple ulcer, it will not be improper to offer a few general obſervations upon

upon the manner in which nature ſeems to operate in accompliſhing the cure of ſores, as alſo on the effects of ſuch aſſiſtance as may be afforded by art for effecting the ſame purpoſe.

§ 2. *Remarks on the Growth of new Parts in Sores.*

THERE is evidently in every ulcer, in its progreſs towards a cure, a growth of parts that tends conſiderably to diminiſh any vacancy the complaint or accident may have occaſioned. This ſubſtance, from the granulated form it aſſumes, has been generally termed Granulations; and it appears, in every wound, in larger or ſmaller proportions, according as the patient is young or old, healthy or otherwiſe; in ſo much that, in young plethoric people, the increaſe of parts is often ſo conſiderable, as to riſe above the level of the neighbouring teguments, and to require the uſe of different cauſtic applications with a view to repreſs it.

When any loſs of ſubſtance that may have been produced, is thus, as far as poſſible, ſupplied, the remaining part of the cure conſiſts in the formation of a cicatrix. This is effected, either when nature alone produces an exſiccation, as it were, of the ſurface of ſuch granulations as had been previouſly raiſed, and in that manner forms a kind of cuticle or ſcarf-ſkin; or, it is obtained by art from the uſe of drying aſtringent applications.

By the formation of new parts, or granulations, it is not here, or wherever the term may be made uſe of, meant to inſinuate, that we ſuppoſe real muſcular or other organiſed parts are ever regenerated in thoſe wounds or ulcers wherein they have been deſtroyed; but merely to expreſs that production, which, if the conſtitution be ſound, always takes place to a certain degree in ulcers, attended with loſs of ſubſtance.

The real nature of this production is not, perhaps, eaſily to be determined: but, from its ſeveral appearances, it is obviouſly very

very vaſcular; from which it is probable, that it conſiſts in an elongation or extenſion of the ſmall blood-veſſels that have been divided, with a conſiderable proportion of inorganic cellular ſubſtance; which, again, is moſt probably formed by a matter ſecreted from the mouths of ſuch veſſels, and which ſerves chiefly as their ſupport or means of connection.

We are not to imagine, however, that any very extenſive loſs of ſubſtance is ever to be entirely filled up in this manner: for although, in particular circumſtances, nature does effect the repair of very conſiderable accidental loſſes; yet, in general, her operations of this kind are very limited. In youth, indeed, before the different parts have arrived at their full growth, and while the ſeveral veſſels are yet daily extending themſelves, conſiderable loſſes are, often, almoſt completely repaired: but we ought not, even at this period of life, to attribute, as practitioners commonly do, ſuch cures entirely to the growth of new parts; for on reflection it appears very evident, that a circumſtance of a quite oppoſite nature al-

ways contributes in a conſiderable degree to their accompliſhment.

§ 3. *The Decay of the contiguous ſound Parts, is a neceſſary circumſtance in the cure of Ulcers.*

THUS, though in the healing of every ulcer, whether it be attended with loſs of ſubſtance or not, a growth of new parts, as we have already remarked, generally takes place to a certain degree; yet the greateſt part of the vacancies, which in theſe caſes always occur, is evidently more diminiſhed by the decay or decreaſe of the divided parts that remain, than by any other cauſe. Indeed, the effect with reſpect to a cure is ultimately the ſame as if all ſuch deficiencies were actually ſupplied with a new ſubſtance: for, if the cavity of an ulcer be diminiſhed, or even entirely annihilated, by the ſubſiding or waſting away of the parts with which it is ſurrounded, there is then no kind of neceſſity for the formation of others: And, in effect, cures are often obtained, eſpecially in old people, without any

any evident growth of parts whatever, and this too in very conſiderable and extenſive ulcers.

This part of nature's proceſs in the cure of ulcers, is to a certain degree obvious even in the ſmalleſt ſores: but the larger the ulcer, the more evident always it appears; and particularly it becomes exceedingly remarkable in the cure of that very extenſive ulcer, which commonly remains after the amputation of any of the extremities, eſpecially of the thigh.

In theſe inſtances, indeed, there is never any conſiderable formation of new parts obſerved to take place; and the cure always advances, juſt in proportion as the ſkin is allowed to contract by the waſting away or decreaſe of the parts which it ſurrounds: and ſuch a decay, or diminution of bulk, is not, in any of theſe caſes, confined to one ſet of parts only; but extends equally to all, the bones perhaps only excepted.

Thus, after the cure of a ſtump, every veſſel, even the largeſt, is almoſt entirely obliterated for a conſiderable extent: at leaſt

leaſt nothing is found to remain of them but the thin membranes that compoſed their coats, now ſhrunk into very ſmall inconſiderable cords; the fibres of the different muſcles are, in the ſame manner, greatly diminiſhed; and the cellular ſubſtance ſeems frequently to be almoſt entirely annihilated. I have happened to meet with ſeveral opportunities of diſſecting the ſtumps of patients after death, and the appearances were uniformly as is here related.

There is yet another caſe of ulcer, in which the cure ſeems with ſtill greater probability to be chiefly effected by the influence of the ſame cauſe. In a large inciſed wound, with little or no loſs of ſubſtance, its edges, in the courſe of twenty-four hours, become greatly ſwelled and tumefied; they are thereby kept at a conſiderable diſtance from each other, and the whole exhibits the appearance of a large foul ulcer. In this ſituation it would remain for a conſiderable length of time, if it ſhould either be neglected, or treated with acrid

acrid irritating applications: As ſoon, however, as by warm emollient poultices, and other proper dreſſings, a free diſcharge of pus is obtained, the inflammation diminiſhes—the ſwelling of the ſides of the ulcer ſubſides—and the ſore gradually contracts to ſuch a degree, that its edges, which before were much ſeparated, are now brought near to one another.

The ſame phenomenon is obſervable in a remarkable degree, in the cure of every ulcer attended with much inflammation; where a great part of the treatment conſiſts in removing the pain, irritation, and ſwelling, which, in ſuch caſes, always takes place.

Every ſmall boil is found to exhibit the ſame appearances: On a boil being laid open, an ulcer is always left, and the cure depends chiefly on the removal of the inflammation and ſwelling of the ſurrounding parts.

Theſe, however, it may be ſaid, are only inſtances of preternatural ſwellings, perhaps originally excited by the preſence of

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ſome acrid irritating cauſe; upon the removal of which, they may be expected to ſubſide, and the ulcers occaſioned by them to contract and heal. The ſame circumſtance, however, has been ſhown to take place even with reſpect to the ſubſtance of ſound parts; particularly, as we have already remarked, after the amputation of a member; the blood-veſſels, nerves, and muſcles, in all ſuch caſes, being conſtantly found to ſuffer a very conſiderable decay.

The ſame thing is likewiſe known to happen in all deep tranſverſe wounds that penetrate through the different muſcles, ſo as to reach the bone: for a cure, in theſe caſes, is ſeldom to be obtained by the firſt intention, eſpecially when any loſs of ſubſtance has been produced. In the cure of ulcers which remain after ſuch wounds, an evident decay of the extremities of the divided parts always takes place: and what ſhows it in a remarkable manner is, that, in all ſuch caſes, the vacancies occaſioned by the wounds are never ſo large and conſpicuous immediately after the cure, while the

the patient yet remains lean and emaciated, as they afterwards become, when in the courſe of time, by the recovery of health and appetite, all the parts of the body, and, among others, thoſe which have been divided, come in a great meaſure to regain their former bulk; and when, accordingly, all vacancies that have been occaſioned by ſuch wounds appear to be more conſiderable.

When, indeed, a wound penetrates only into the cellular membrane, or does not entirely divide the muſcles, the cavity produced by it, does, no doubt, in the courſe of time, gradually diminiſh, ſo as ſometimes to diſappear altogether. This, however, is in conſequence of the parts below extending in their diameters; which, in the other caſe we have ſuppoſed, of a wound with loſs of ſubſtance penetrating to the bone, never can happen.

This opinion, with reſpect to the cure of wounds depending in a great meaſure upon the decay of the ſurrounding parts, was firſt introduced by a very ingenious French practitioner,

practitioner, Mr Fabre: and, like every new doctrine, it has by ſome been denied to have any ſort of influence; whilſt, by others, much more remarkable effects have been attributed to it, than, on examination, it will be found intitled to.

Thus Mr Fabre, and Mr Louis another ſurgeon of eminence in Paris, aſſert, that wounds of every kind which do not heal by the firſt intention, are cured entirely by an affaiſement, as they term it, or a waſting away of the extremities of ſuch parts as have been divided; and they abſolutely affirm, that there never does occur any laſting production of new parts in the healing of ſores *.

Such an aſſertion, however, is entirely contradictory to daily experience; and ſeems to be merely the conſequence of a lively imagination entering keenly into the ſupport of a favourite doctrine: for, altho' it will readily be allowed, that a very conſiderable part of the cure in every ulcer, eſpecially in old people, is effected by the cauſe

* Vid. Memoires de l'Academie de Chirurgie, tom. 4.

cauſe we have aſſigned; yet few practitioners will, probably, deny, that in many inſtances, particularly in young people, very conſiderable productions occur of that vaſcular ſubſtance we have formerly deſcribed; inſomuch that it is ſometimes a very troubleſome matter to ſuppreſs ſuch excreſcences, ſo as to keep them within proper limits.

As a farther confirmation that a growth of new parts does, to a certain degree, frequently occur, many very remarkable inſtances might be mentioned from different authors, of deep and extenſive loſſes being almoſt entirely repaired by nature. It would here, however, be very foreign to our purpoſe, and eſpecially as it does not appear to be in the leaſt neceſſary; for by every candid practitioner it muſt be acknowledged, that ſuch occurrences are by no means uncommon.

Though the opinion, however, cannot be admitted in ſuch an extenſive latitude as thoſe who introduced it might incline; yet, from the ſeveral arguments we have advanced,

advanced, it will appear to have at leaſt a conſiderable ſhare in the cure of every ulcer; and from all that has been ſaid with reſpect to it, this inference, we think, may be drawn, that although the generality of ulcers are ſupplied with a ſpecies of new production, yet to a certain extent the cure of all ſuch diſorders depends very much upon the contraction of the ſurrounding ſkin, in conſequence of the parts lying below it ſubſiding or diminiſhing in bulk.

This, when there has been any preternatural tumefaction induced, as frequently happens in a particular manner in ſcrophulous ſores, is effected merely by the diſcuſſion of ſuch ſwellings; but in others that are attended with a real loſs of ſubſtance, the extremities of even the ſound remaining parts, muſt, as we have already remarked, undergo very conſiderable diminutions.

§ 4. *Of the Effects of Compreſſion in the Cure of Ulcers.*

From this view of the matter, a very material piece of practice, which we find to have been long ago known to practitioners, but which of late has, for no evident reaſon, however, been almoſt entirely laid aſide, comes to be clearly accounted for: I mean, the uſe of the laced ſtocking in ulcers of the legs; which, by Wiſeman and many other old writers, is much recommended, with a view to prevent thoſe œdematous ſwellings to which patients with ſuch diſorders are commonly liable.

With this view, the laced ſtocking is no doubt to be conſidered as the moſt effectual remedy; but it has, in all ſuch caſes, I am perſuaded, been much more frequently of ſervice, by ſerving to promote that diminution of the adjoining parts, which we have already ſhown to be ſo neceſſary for the cure of every ulcer: As in this reſpect it acts merely by the degree of compreſſion

afforded, it muſt evidently prove equally ſerviceable in whatever part of the body ſores may be ſituated; and accordingly, I have conſtantly found, that ulcers in the arm, and wherever a continued gentle preſſure could be applied, have received more benefit from an application of this kind, than from all the other remedies uſually employed.

As it is the preſſure therefore only, which in ſuch caſes is wanted, it is moſt conveniently made, both in the legs and elſewhere, by means of a pretty broad roller applied ſpirally, if neceſſary from the extremity of the member, to a little above the diſeaſed part; but when no œdematous ſwellings occur, it generally proves ſufficient to make the roller paſs from about three inches below the ſore, to two or three inches above it. In ulcers of the legs the roller ſhould commence at the toes, and ſhould be carried to the knee joint, or at leaſt to two inches above the ſores: and, even in ulcers of the thighs, if any œdematous ſwelling occurs in the leg, as is often the caſe, the bandage

bandage ſhould commence at the toes; but when the leg is altogether free from ſwelling, this is ſeldom found to be neceſſary. By means of a roller, compreſſion can be made more directly on any particular part, than with the laced ſtocking; it is more conveniently applied too, and it generally gives leſs uneaſineſs to the patient. It is likewiſe more eaſily obtained: for the difficulty of fitting a laced ſtocking, with that exactneſs which this application requires, is ſo great, that very few tradeſmen are capable of making it; whereas a roller may at all times be eaſily procured.

Rollers, for this purpoſe, ought to be about two inches and a half broad; and on experience it is found, that they anſwer better when made of thin flannel of the Spaniſh or Welſh kind, than of any other article. This not only keeps the parts warmer than linen, which, in ulcers of every kind, proves commonly ſerviceable; but the ſoftneſs and elaſticity of the flannel prevents it from fretting and galling the parts to which it is applied; an incon-

venience frequently experienced from linen bandages.

In the application of ſuch a bandage, it will readily be underſtood, that it ſhould always be done in ſuch a manner as particularly to ſupport the ſkin, ſo as to occaſion as near a conjunction as poſſible of the edges of the ſore. For as it is well known, that there never occurs any production of new ſkin, or even elongation of the old, as much as can be eaſily ſaved ſhould always be brought to cover ſuch parts as by its retraction may have been denuded; for all ſuch as remain uncovered, have afterwards for their protection a thin ſcarf-ſkin only, which, in ſtrength, as well as in every other circumſtance, is greatly inferior to the cutis vera.

From a due attention to this point, much more aſſiſtance is to be obtained in the cure of wounds and ulcers than is commonly imagined: for, in by far the greateſt number of ſituations, every wound not attended with much loſs of ſubſtance may be brought to heal by the re-union of the divided

vided parts; which, in every caſe that can occur, is by much the moſt eligible method of cure. When this can be properly accompliſhed immediately upon a wound being inflicted, it ſhould always be done: but very often, when that precaution has either at firſt been neglected, or when it has not then been practicable from a too great retraction of the parts, it may frequently be effected afterwards in a later period of the diſorder.

For, in large wounds, when in the ſpace of about fourteen days a full ſuppuration has come on, and the inflammation which originally took place has in a great meaſure ſubſided, the ſides of ſuch wounds, or ulcers as they then are, may by proper compreſſion be either entirely united, or at leaſt brought ſo far to approach one another, as greatly to diminiſh any vacancy that at firſt took place; a circumſtance which renders the cure of ſuch complaints much more ſhort and eaſy than it is otherwiſe found to be.

In the application of compreſſion, for

the purpoſe we have mentioned, it will be underſtood, from what we have ſaid already, that it is not to be employed in any ſpecies of ulcer while any conſiderable degree of inflammation remains; but as ſoon as that ſymptom is pretty much removed, it may always be put in practice with the greateſt ſafety.

The remedy of which we are now ſpeaking, namely, compreſſion, proves ſo generally uſeful in the cure of ulcers, that after the inflammatory ſtage of ſores is over, it ought in, perhaps, every inſtance to be employed: Cures may no doubt be effected by other methods; but I will venture to ſay, that in the moſt troubleſome of all ſores, habitual ulcers of the legs, more laſting cures may in general be obtained by a proper application of preſſure, than by any other means with which practitioners are as yet acquainted.

The other moſt remarkable part of the proceſs of nature in the cure of ulcers, conſiſts, as we have already obſerved, in the formation of a certain kind of new ſubſtance;

ſtance; the production of which we in ſome meaſure attempted to explain, by ſuppoſing it to conſiſt in an extenſion of the divided veſſels, with a conſiderable increaſe of cellular ſubſtance. This, in a ſound healthy ſtate, appears, in every ſore, in the form of an infinite number of very ſmall tubercles, of a bright, freſh red complexion, and in general of a tolerably firm organiſation.

As, in diſeaſed ſtates of the body, theſe tubercles or granulations put on very different appearances, according to the particular nature of the complaint with which they happen to be connected, ſuch peculiarities as are thereby occaſioned in the ſeveral ſpecies of ulcer enumerated in the enſuing ſections will be all particularly taken notice of; as will likewiſe the various methods of aſſiſting nature, not only in the correction of the diſeaſed ſtates of ſuch productions, but in promoting a firm and healthy growth; for although this is chiefly to be conſidered as the work of nature, yet art in different circumſtances is fre-

quently able to afford her very conſiderable aſſiſtance.

Though the means neceſſary for this purpoſe will be afterwards particularly pointed out, it will not be improper, in the firſt place, to make a few obſervations with reſpect to their general tendency, ſo that the operation of all of them may be then more readily underſtood.

§ 5. *Of the Advantages to be obtained from Art, in the Production of Granulations in Sores.*

THE principal advantage which in this reſpect accrues from art in the cure of ſores, is the removal of ſuch cauſes as tend to retard the natural exertions of the ſyſtem; and although the different obſtructions which nature meets with in her progreſs are exceedingly various, yet they may all with propriety enough be reduced to two general heads, namely, to ſuch as may be conſidered entirely as of an internal nature, and to thoſe again which operate merely as external or local cauſes.

Of

Of the former kind are, every general diſorder to which the conſtitution is liable; as it is by experience found, that a ſound healthy ſtate of the ſyſtem only, is capable of producing proper granulations.

Thus the cure of ſuch ulcers as occur in lues venerea, ſcrophula, and ſcurvy, can never be properly effected unleſs the general affection of the habit be firſt corrected.

A low emaciated ſtate of the ſyſtem too, proceeding either from a very poor diet, or from immoderate evacuations, is found to be very prejudicial to the growth of new parts: for, as the ſupply of ſuch accidental loſſes as occur in ſores, muſt render it neceſſary to ſupply the ſyſtem with a larger proportion of nutritious matter than is requiſite when there are no loſſes or deficiences to be repaired, if a patient in ſuch a ſituation be kept upon a low allowance in point of diet, and eſpecially if at the ſame time the diſcharge from the ulcer is conſiderable, the repair of any deficiences muſt, in ſuch circumſtances, it is evident, go on much

much more ſlowly than when the contrary of theſe occur. And in fact we find, though a very plethoric habit of body, with a full allowance of heating nouriſhing diet, is not proper for the cure of any kind of ſores; yet that an emaciated ſtate, and a low debilitating regimen, prove equally prejudicial.

A middle courſe, therefore, ſhould in all ſuch caſes be obſerved, and the patient ought to be kept in a ſituation at leaſt not much more reduced than that of his ordinary or natural health. But this circumſtance muſt in a great meaſure be regulated by the particular exigencies of every caſe: for, in ſome patients of a highly inflammatory diatheſis, every ſcratch almoſt is apt to inflame and become troubleſome; ſo that, when ulcers of any magnitude occur in this ſtate of the ſyſtem, it is often neceſſary to keep the patient on a very low allowance.

Others, again, of a contrary habit of body, who have been much reduced, and who have no particular tendency to inflamma-

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tory complaints, very frequently bear, and receive much benefit from, more nouriſhing foods than they were formerly accuſtomed to; ſo that it muſt always depend on the judgment of the practitioner, to point out ſuch a regimen as may ſeem beſt ſuited to the particular ſituation of every patient.

The local obſtructions, again, which occur to the formation of new parts in ulcers, are of various kinds: but they may all be reduced to two general diviſions; namely, to ſuch as act ſolely in a mechanical manner by exciting irritation; and thoſe that are evidently of a corroſive nature.

From daily experience, it is found, that granulations in ſores, are, cæteris paribus, always moſt quickly formed when the part is kept entirely free from pain; and, when duly attended to, the reaſon of this appears ſufficiently obvious. For whatever proves the cauſe of much uneaſineſs, muſt excite in the extremities of the divided veſſels, as irritation does in every ſenſitive part to which it is applied, a preternatural degree of action or ſtricture; which is a

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ſtate entirely oppoſite to what we have ſhown to be the moſt favourable for the production of new parts; for as this very probably depends, as we have elſewhere remarked, on an elongation of the divided veſſels, the more eaſy and lax theſe are preſerved, the more readily always will ſuch an extenſion advance.

And we do accordingly find, that whatever tends to keep up any conſiderable inflammation in ſores, has a certain effect in putting a total ſtop to the production of granulations.

Hence the neceſſity of removing from wounds and ulcers, every extraneous body, or whatever tends to produce irritation; and from the ſame circumſtance is accounted for the great advantage of dreſſing ſeldom, and of uſing mild ſimple applications, inſtead of following the practice which formerly prevailed, of dreſſing much more frequently, and that too with very complex irritating ointments and waſhes.

The other ſet of local cauſes that tend to obſtruct the formation of new granulations,

tions, and which were ſaid to be of a corroſive nature, are chiefly all thoſe vitiated diſcharges, which, by neglect or improper management, are ſo apt to occur in every ulcer. For, almoſt every kind of matter afforded by ſores, that differs much in its nature, either in colour or conſiſtence, from mild and good pus, poſſeſſes conſtantly a greater or leſs degree of acrimony or cauſticity; which in ſome caſes is ſo very remarkable, that not only the granulations are corroded and prevented by it from riſing, but even the neighbouring ſound parts are often greatly injured.

In all ſuch diſorders, the principal intention to be kept in view, is the correction of this acrid ſtate of the matter, whilſt at the ſame time we attempt to convert it into what is termed laudable pus; the ſeveral means for effecting which will afterwards in the different ſections be particularly enumerated.

Theſe different obſtacles to the formation of granulations being at laſt removed, nature will always, as far as poſſible, carry on

on their formation; and when, in due time, ſuch vacancies as occur in ſores, are, either by their means, or by the effect of compreſſion, or by both, as much as may be, ſupplied, the only remaining part of the cure, as we formerly remarked, is the formation of a cicatrix. This, too, is frequently, in a great meaſure, effected by nature; but it can often be conſiderably promoted by the uſe of proper applications.

Whilſt any deficiences in ſores remain to be filled up, and whilſt the parts are for this purpoſe ſtill ſhooting and extending, the very mildeſt applications, it was remarked are the moſt proper; but, when the loſs of ſubſtance has either been repaired entirely, or to ſuch a degree as the ſtrength and other circumſtances of the patient will permit, thoſe applications, which in the extending ſtate of the veſſels would have been prejudicial, now become proper and neceſſary.

Thus, all the mild ſtyptic powders and waſhes, by contracting or corrugating the extre-

extremities of ſuch veſſels as have been divided, and by producing an exſiccation of that inorganic cellular ſubſtance in which theſe are enveloped, tend to induce over the ſurface of ſores that delicate thin covering termed Cicatrix; which, though it is at firſt always very tender, yet in courſe of time it commonly acquires greater ſtrength, by a farther addition of thickneſs, from that ſame cellular membrane which at firſt contributed to form it.

Having premiſed theſe general obſervations with reſpect to the manner in which the cure of ſores ſeems to be effected, and which apply in a great meaſure to every ſpecies of the diſorder, we now proceed to the more particular treatment of the ſimple purulent ulcer.

§ 6. *Remarks on the Indications of Cure, and on the Remedies neceſſary in the Treatment of the ſimple purulent Ulcer.*

In the cure of this ſpecies of ulcer, as there is very little inflammation, and no pre-

preternatural ſwelling ſuppoſed to take place, but merely a vacuity, either from a real loſs of ſubſtance, or from a retraction of parts ſimply divided, the diſcharge at the ſame time being of a mild purulent nature; the only indications that occur, are,

1*ſt*, To diminiſh, as much as poſſible, any vacancy the ulcer may have occaſioned; and,

2*d*, To promote the formation of a cicatrix.

For the more effectual accompliſhment of the firſt of theſe, the concurrence of two different circumſtances is requiſite; namely, The formation, to a certain extent, of new granulations; and the diminution or decay of ſuch parts as lie immediately contiguous to the ulcer.

We have formerly ſhown, that either a conſiderable degree of inflammation, or the preſence of any acrid corroſive matter, are both exceedingly detrimental to the production of new parts; ſo that this part of the cure ought to conſiſt entirely, or at

at leaſt chiefly, in ſuch a treatment as tends moſt effectually to the prevention of theſe cauſes.

With this view, the firſt circumſtance to be attended to, is, to avoid the uſe of the ſeveral warm gums, balſams, and ſpirituous tinctures, as we find recommended in every caſe of ulcer, by all the older writers, and as is ſtill continued by many of the modern foreign practitioners.

For although, in ſome ſpecies of ulcers, different articles of this kind may be uſed without much inconvenience, and in certain circumſtances may ſometimes even be of ſervice; yet, in every caſe of ſimple ulcer, they always do miſchief, and in the treatment of ſuch ſores ſhould certainly be laid aſide; as ought alſo every application that can occaſion much pain or irritation: for whatever has this effect, muſt always increaſe the inflammation; and, conſequently, for the reaſons we have formerly given, muſt neceſſarily retard the cure. Even the common baſilicon and linimentum Arcæi of the ſhops, are, for the

ſame reaſons, improper; for every ointment with any large proportion of roſin or turpentine, always irritates very conſiderably.

The only advantages which, in ſuch caſes, ought to be looked for from the uſe of any ointment, ſhould be, its allowing the different dreſſings to be renewed with leſs pain than they otherwiſe could be; and hence a compoſition of the blandeſt materials, is, for ſuch purpoſes, preferable to every other.

In this view, any ointment ſimilar to the unguentum cereum of the Edinburgh Diſpenſatory, anſwers exceedingly well: It is prepared with pure white wax, ſpermaceti, and freſh olive-oil, without any other addition.

The quantities of each of the articles, as there preſcribed, are, four ounces of wax, three ounces of ſpermaceti, and a pound of oil; a compoſition which forms an ointment of a very proper conſiſtence, and which ought to be kept in every ſhop, as the

the moſt uſeful dreſſing for all the more ſimple kinds of ulcers.

In ſuch ſores as we are now treating of, an ointment containing a proportion of any of the ſaturnine remedies, is ſometimes found to prove uſeful; and as Goulard's cerate is a very neat preparation of this kind, we think it right to communicate the preſcription he gives for it.

Take four ounces of refined wax and one pound of oil; and keep them over a ſlow fire till the wax is melted, taking care to ſtir them gently. Having previouſly mixed four ounces of the extractum ſaturni with ſix pounds of water, add it by little and little to the wax and oil, now cooled in a veſſel of a proper ſize*. Let them be well incorporated together with a wooden ſpatula, always taking care to let the quantity of water firſt put in be thoroughly abſorbed before any more is added: This cerate may be made ſtronger or weaker, by adding more or leſs of the extract. This,

* For the preparation of the extractum ſaturni, ſee page 44.

as well as every ointment, ſhould always be prepared in ſmall quantities, as it is of much importance in the treatment of ſores to employ ſuch dreſſings only as are perfectly freſh and free from rancidity.

Pledgits of lint, ſpread thin with either of theſe ointments, are in general applied without occaſioning the leaſt pain; and the uſe of them in this manner, indeed, is never attended with any kind of inconvenience: for, though all oily applications to ſores have been condemned by ſome, from an apprehenſion of their turning rancid; yet I can ſay from experience, that under proper management they never become ſo. Nor is it eaſy to ſuppoſe that any ſuch preparation, as theſe we have mentioned, when compoſed of freſh materials, can ever become putrid between the different dreſſings of ſores, which very rarely ought to be more diſtant than twenty-four hours from one another.

The frequent dreſſing of ſores is now very generally, and very properly, condemned; but, as practitioners are apt to

to run into oppoſite extremes, we find that by ſome it is recommended to renew applications of this kind not oftener than once in five, ſix, or eight days. It rarely, if ever, happens, however, that this can be proper. It affords no advantage to the ſore: for we can aſſert from frequent evidence of both methods, that an ulcer, except in the lateſt ſtages of it when the cicatrix is nearly forming, will in general cure more eaſily by the dreſſings being changed daily, than when not renewed ſo frequently; and it is attended with this advantage, that the patient is kept clean, and the air of the apartment in which he lies is preſerved in a more pure ſtate than it ever is by a contrary management. We are therefore clearly of opinion, that although the dreſſings of ſores ought not to be very frequently renewed, yet that the contrary extreme would prove ſtill more prejudicial: In hoſpitals eſpecially, where it is ſo difficult to preſerve the air pure and untainted, this is a circumſtance which merits the greateſt attention; more indeed

than practitioners commonly beſtow upon it. The leading circumſtance which ought to direct us in the frequency of dreſſings is, the quantity of matter afforded by ſores: No application ſhould be removed till it can be done with perfect eaſe; but whenever there is any conſiderable quantity of matter in the cavity of an ulcer, the dreſſings ought to be renewed daily.

One principal inconvenience ſuppoſed to ariſe from the frequent dreſſings of ſores, is the influence produced upon them by expoſure to the air; but if new dreſſings are ſo prepared as to be immediately applied on the others being removed, every inconvenience from this cauſe may be avoided. This we muſt remark, however, is a point of ſuch importance as to deſerve very ſerious attention; for a too free admiſſion of air to ſores always interrupts the cure, not only by acting as a powerful irritating cauſe, but by tending to vitiate the nature of the matter diſcharged by them.

Another objection too has been made by different practitioners, to the uſe of unctu-

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ous applications in the treatment of ſores, namely, that they are apt to render the parts lax and flabby, ſo as to prevent the new granulations from being ſo firm as they otherwiſe would be.

This I know, indeed, to be the conſequence of a long-continued uſe of warm emollient applications, eſpecially of fomentations and poultices: but an ointment of the kind we have recommended, very thinly ſpread, never does produce that effect, and it always proves a more agreeable application than dry charpee alone; which, unleſs the ſores to which it is applied are covered with large quantities of matter, always occaſions a good deal of irritation, and in ſome degree is attended with the ſame effects as gentle eſcharotic applications; a circumſtance that ſeems to have been well known to many of the old writers on ſurgery, who frequently recommend dry charpee for ſuppreſſing the undue growth of parts, when, in the cure of ſores, it happens to be too conſiderable.

I have long been an enemy to the indiſ-

criminate uſe of dry charpee or lint in ſores. This will appear from the contents of the preceding paragraph, which was publiſhed ſix years ago, and I never had any reaſon to alter my opinion. The effect of cuſtom, however, is ſo powerful, that it may be long before the uſe of dry lint is ſo univerſally laid aſide as it ought to be: but, from much experience in matters of this kind, I am clearly of opinion, that a general uſe of it as a dreſſing tends much to retard the cure of ulcers; and whoever will have the reſolution of deviating from the eſtabliſhed practice, and will employ any mild ointment as a common application to ſores, will receive much ſatisfaction from doing ſo. When ſpeaking of mild dreſſings, I would wiſh to have it underſtood, that it is in the ſimple purulent ſtate of an ulcer only, in which much utility is to be expected from them. After all that has yet appeared to the contrary, not only in the writings of many of the ancient authors, but even in thoſe of ſome modern practitioners, I am perfectly convinced, that

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in this ſtate of an ulcer a cure will be more eaſily and more quickly obtained by mild dreſſings than by any other means: but in the ſloughy foul ſtate of ſome ſores, applications of this kind, it muſt be owned, have little or no effect; and in ſuch circumſtances ſome of the warm irritating dreſſings, to be afterwards pointed out, are the only means from which relief is to be expected.

In all ſuch ulcers, therefore, as we are now ſpeaking of, thoſe pledgits, which, at the different dreſſings, are applied immediately to the ſores, ſhould be ſpread with ſome ſuch ointment as thoſe we have recommended.

The next circumſtance requiring attention in this part of the cure, is to employ ſuch means as may preſerve the matter diſcharged from ſores in its proper purulent ſtate, both with reſpect to colour and conſiſtence; for, unleſs very particular attention be given to this point, the beſt conditioned matter always degenerates ſooner or later into a worſe kind; and as matter of a real purulent nature is the mildeſt and leaſt acrid diſcharge that ulcers ever afford,

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every precaution ſhould be taken to preſerve a continuance of it in this ſtate.

In the ſimple ſpecies of ulcer now under conſideration, the principal attention which for this purpoſe is requiſite, is the preſervation of a due degree of heat in the part affected. This, in whatever part of the body the diſorder is ſituated, is exceedingly neceſſary: but it is more particularly ſo in the extremities than any where elſe; for the natural heat of theſe parts is not near ſo conſiderable as it is in the trunk and other ſituations where the action of the heart has more influence.

We have formerly ſhown in the treatiſe on inflammation, how neceſſary a proper degree of heat is for the formation of pus in every caſe of abſceſs: and as it is no leſs ſo in the treatment of ulcers, it ſhould always be very particularly attended to; for the want of a due regard to this circumſtance alone, very often occaſions the degeneracy of ſimple ulcers into thoſe of much more inveterate diſpoſitions.

Whilſt any degree of inflammation remains

mains in ulcers, the eaſieſt and beſt mode of applying heat is by the uſe of warm emollient cataplaſms; but, as ſoon as the inflammatory ſymptoms are much abated, theſe ſhould be immediately laid aſide: For, in conſequence of the very powerful relaxing properties of warm emollients, a too frequent and long-continued uſe of them, as we have already obſerved, is apt to induce too much laxity or want of tone in the parts to which they are applied. And the ſame purpoſe may be then anſwered equally well, by applying over the dreſſings thick quilted coverings of wool, cotton, or of any ſuch ſubſtances as moſt effectually retain heat.

The good effects reſulting from a proper attention to this kind of management, I have on many occaſions experienced; and although it may not be of ſo much importance in caſes of ſimple ulcers merely, as in thoſe of a worſe kind, yet even in the ſlighteſt that occurs it ſhould never be omitted.

In almoſt every ſpecies of ulcer, poultices

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are found to be very uſeful applications in one part or other of the cure: and altho' in ſuch as are attended with much inflammation, they may no doubt prove ſerviceable by their emollient properties; yet the degree of heat they afford, by its effects in promoting a good ſuppuration, is, I am perſuaded, independently of every other circumſtance, the greateſt advantage they ever produce.

But poultices, when uſed with this intention, unleſs they are much more frequently renewed than they generally are, rather do harm than good; for, in order to obtain all the advantages that may be derived from them, they ſhould be renewed at leaſt every three hours. But this ſubject having been more fully treated of in the eſſay on inflammation, it is not now neceſſary to enlarge farther upon it; for the ſame obſervations we had then occaſion to make reſpecting the effects of heat in promoting ſuppuration, apply with equal force and propriety here.

Theſe different circumſtances, namely, the

the prevention of irritation by very mild dreſſings, and the preſervation of a proper degree of heat in the part affected, are the moſt certain means both of promoting the growth of new parts, and for obtaining and keeping up a diſcharge of good matter. They ſhould both, therefore, be all along particularly attended to; either till there does not ſeem any farther deficiency to fill up, or till nature appears to have effected as much in the production of a new growth of parts as the circumſtances of the caſe will permit.

The other moſt material part of the firſt indication in the cure of ulcers, is to be obtained, as we already obſerved, by means of gentle compreſſion: and this, it may be remarked, is to be employed at the ſame time, and to be uſed along with the ſeveral applications we have already mentioned; for as ſoon as the inflammatory ſtate of an ulcer is over, and a diſcharge of good matter is induced, ſlight compreſſion by means of a roller, as we formerly recommended, may be immediately applied, and

ſhould

ſhould be continued during all the remainder of the cure. It ſhould be applied too, as was then directed, in ſuch a way as not only to produce a gentle preſſure upon the parts immediately ſurrounding the ulcer, but likewiſe to ſerve as a ſupport to the ſkin and other teguments, ſo as to prevent their retraction, which otherwiſe, in large ulcers eſpecially, is very ready to happen.

When, by a proper attention to the moſt material circumſtances in the treatment, and on the neceſſary remedies being continued for a longer or ſhorter period according to the ſize of the ſores and habit of the patient, any loſs of ſubſtance which occurred is at laſt as far as poſſible ſupplied, the next indication of cure comes then to be attended to; and that is, the formation of a cicatrix.

We have formerly obſerved, that a cicatrix is frequently effected by nature alone; but, in many caſes, when every deficiency appears to be even thoroughly ſupplied, yet ſtill a cure is difficult to accompliſh: The ſurface of the ſores remains raw, and

and at the ſame time diſcharges conſiderable quantities of matter. In ſuch caſes, it becomes neceſſary to lay aſide the ointment recommended for the preceding part of the cure, and to uſe one of a more ſtyptic drying nature.

In this view, the unguentum album prepared with ceruſs, as is ordered in different diſpenſatories, anſwers exceedingly well; better, indeed, I have often thought, than the ceratum e lapide calaminare, ſo commonly employed as a dry application. Lime-water, too, often proves a very effectual application in this ſituation of ulcers: By bathing the ſores with it once or twice daily, and uſing the ceruſs ointment or common cerate as a dreſſing, a cure will frequently be effected, when it cannot poſſibly be obtained by emollients: Ardent ſpirits, too, will often anſwer the ſame purpoſe, of putting a ſtop to the diſcharge afforded by ſores in this ſtate, and of drying or corrugating the ſoft cellular ſubſtance upon their ſurface into a firm cicatrix.

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On ſome occaſions, again, a proper cicatrix is prevented from forming, by the growth of new granulations being ſo conſiderable as to riſe above the ſurface of the neighbouring ſound parts. In ſuch caſes, it becomes neceſſary to have recourſe to different aſtringent or even eſcharotic applications, of which the moſt effectual among the milder cauſtics is blue vitriol; which, unleſs in very obſtinate caſes, almoſt always proves ſufficient; and when it happens to fail, nothing weaker than the common cauſtic ſtone is ever found to prove effectual.

In ſlight caſes of this kind, indeed, a cure is often effected by the uſe of dry charpee alone; a pretty tight bandage being at the ſame time applied over all.

This, we muſt obſerve, however, is a ſituation of a ſore which frequently proves more perplexing and troubleſome than any other part of the cure: for it often happens, even in the moſt healthy conſtitution, and when the preceding part of the cure has gone very properly on, that a cicatrix cannot

cannot be induced, and the granulations newly formed continue raw, and do not ſhow any tendency to heal: In this ſituation, when the means we have already adviſed do not prove effectual, compreſſes moiſtened in ſtrong ardent ſpirits, as we have mentioned above, particularly in French brandy, being applied under the roller, will often accompliſh a cure: or ſpirits uſed in this manner, may be alternated with tincture of myrrh, or with a ſolution of blue vitriol in water; a practice which in different inſtances I have found to ſucceed, when the means uſually employed in ſuch caſes have all failed.

In the preceding obſervations we have enumerated ſuch local applications as have been found to be moſt effectual in the cure of ulcers; but there are ſome circumſtances, which, though of a more general nature, are yet equally neceſſary to be attended to.

In every ſpecies of ulcer, even in thoſe of the moſt ſimple nature, reſt of body, eſpecially of the part affected, is particu-

larly requiſite; inſomuch, that, unleſs this circumſtance be attended to, all the applications that can be uſed, prove commonly of little importance. In diſorders of this kind, too, occurring in the lower extremities, the affected limbs ſhould be always kept, as much as poſſible, in a horizontal poſition, as being the poſture which proves moſt favourable for the circulation of the fluids.

Reſt and an horizontal poſture, have by almoſt all practitioners, both ancient and modern, been looked upon as abſolutely neceſſary for the cure of ulcers in the lower extremities. In ſome late publications, however, it is aſſerted, that reſt is ſo far from being neceſſary in ſuch caſes, that a cure is juſt as eaſily and certainly performed whilſt patients are going abroad, as whilſt they are under the ſtricteſt confinement.

In ſome very ſlight ulcerations, this may ſometimes be the caſe; and with the aſſiſtance of a pretty tight bandage or laced ſtocking, applied ſo as to ſupport the parts properly, even ſores of a worſe kind may be

be frequently cured, and the patients at the ſame time be allowed to take gentle exerciſe. But, in general, ſo far at leaſt as my experience goes, the regulations upon this point, enjoining ſtrict confinement in every ulcer of the extremities, as handed down to us by all the ancient writers, appears to be very well founded; for, according as they are more ſtrictly attended to or not, the cure commonly advances quickly or otherwiſe.

It does often happen, indeed, as we have ſaid above, that ulcers of even a bad nature are cured without any aſſiſtance from confinement or a horizontal poſture of the limb. This I have frequently met with; and at this time I have different caſes under my care, of ulcers going on towards a cure, whilſt the patients are daily going abroad. But their being allowed to take this liberty, has always proceeded from neceſſity; as there is nothing of which I am more perfectly convinced, than that ulcers on the lower extremities will cure ſooner, more eaſily, and to more real ad-

vantage, whilſt the limb is preſerved in a horizontal poſture, than they will do whilſt the patient continues to take exerciſe. But when the circumſtances of patients prevent us from receiving the advantages to be derived from confinement, we are reduced to the neceſſity of attempting the cure of ulcers by other means; and, in ſuch circumſtances, nothing anſwers ſo well as preſſure applied by a roller in the manner we have uniformly mentioned in this as well as in the former editions of this work.

As confinement, during the cure of ulcers on the legs, proves always inconvenient, various means have been propoſed for rendering it unneceſſary; and it has not only been ſaid, that cures may be performed without any aſſiſtance from confinement or a horizontal poſture, but by ſome it is alledged, that they are even prejudicial *.

We have already remarked, that ulcers of the legs may be healed while patients are daily

* This has been aſſerted by other writers; but it has been more fully enlarged upon of late, in a Treatiſe upon ulcers of the legs, by Mr Underwood of London.

daily going abroad; and eſpecially if a due compreſſion be continued: But, notwithſtanding all the arguments adduced in favour of the practice, I have not yet heard of any which ought to ſet aſide the opinion we have endeavoured to inculcate upon this point, and which, indeed, has in all ages been allowed to be well founded; namely, that a horizontal poſture is highly proper in the cure of every ulcer of the lower extremities. The means propoſed by Mr Underwood, I have tried on various occaſions; they have ſometimes proved ſucceſsful; but whatever may have been the caſe with others, they have never, in the courſe of my experience, effected cures ſo eaſily and ſpeedily, or which have proved ſo permanent, as the means we have recommended, of employing mild dreſſings to ſimple ſores, together with a horizontal poſture in every ulcer of the leg.

In almoſt every caſe of ulcer, particular directions have been given by practitioners, with reſpect to regimen; and, in general, a low ſpare diet has been preſcribed. Such

regulations, however, when carried to a great length, moſt conſtantly do miſchief: for they ſeldom fail to relax the habit conſiderably, and to produce other diſagreeable effects, particularly on the nature of the matter diſcharged from ſores.

The only attention, which, in this reſpect, ſeems to be neceſſary, is to guard againſt all exceſs in eating or drinking; for whatever has the effect of producing merely a ſlight temporary fever with any additional inflammation, proves, in ſuch caſes, always very prejudicial: But, in place of a diet much lower than uſual, as is moſt frequently recommended, a more full and nouriſhing regimen, than the patient even in a ſtate of health has been accuſtomed to, is often found to prove ſerviceable.

For the diſcharge of purulent matter proves always ſo very debilitating, that in large ulcers, when great quantities of it are afforded, this circumſtance alone generally weakens the patient too much, if the conſtitution be not at the ſame time enabled to ſupport it by a proper diet. Indeed, it is con-

conſtantly found, that the cure of ſuch ſores goes on much more eaſily when the patient is kept in his uſual habit of body, than when his ſyſtem is much reduced by a very low allowance: nay, I have had many opportunities of obſerving, that ulcers even of the worſt kinds, are ſoon brought to heal by the uſe of a nouriſhing diet alone, after they have obſtinately reſiſted all the uſual applications and remedies.

For the ſame reaſons that a low regimen is condemned, the uſe of purgatives, and in general whatever tends to weaken the conſtitution, is improper. Nor does it ever happen, if proper attention be paid to the different circumſtances we have pointed out, that internal medicines of any kind are neceſſary in this ſpecies of ulcer: I know that it is a frequent practice to give medicines of different kinds, particularly bark, nitre, and cooling purgative ſalts, in this as well as in every variety of ulcer. But in the ſimple purulent ulcer, of which we are now treating, I never find it neceſſary to employ any remedy directed to the

ſyſtem at large: The diſorder is merely local, and local applications ought to be ſolely depended on for the cure. When, indeed, the matter of a ſore is in too great quantity, and eſpecially if it be thin and acrid, bark, ſteel, and other tonics are frequently employed with advantage: But when the local applications we have already recommended do not prove effectual in correcting this, it will commonly be found to originate from ſome general diſeaſe of the conſtitution; a different ſpecies of ulcer will be therefore produced, and other remedies will conſequently be neceſſary.

SECTION III.

Obſervations on the ſimple vitiated Ulcer.

THE ſimple purulent ulcer we have deſcribed in the preceding ſection being the mildeſt, and, if the expreſſion may be

be uſed, the moſt natural ſpecies of the diſorder that can occur in a healthy body, every deviation from it might be conſidered as a vitiated ſtate. But thoſe we mean to comprehend under the denomination of Vitiated Ulcers, are ſuch as differ from it chiefly in the appearance and nature of the diſcharge which they afford. All thoſe which are diſtinguiſhed by any remarkable peculiarity of the ſolid parts, as they require each of them a diſtinct and ſeparate method of treatment, ſo they are allowed, as we have formerly remarked, to conſtitute ſo many diſtinct ſpecies of the diſorder; and they will, accordingly, be all taken notice of ſeparately.

Whereas, thoſe which differ from the more ſimple ulcer, only or chiefly in the nature of the diſcharge, as they require all nearly the ſame method of cure, and as theſe differences are merely accidental, they have not, for theſe and other reaſons, as we have already remarked, been allowed to have any influence in forming diſtinctions.

§ 1.

§ 1. *Of the Symptoms, Cauſes, and Prognoſis of the ſimple vitiated Ulcer.*

THE moſt common appearances in the matter afforded by ulcers, when it deviates from the more natural ſtate of purulent matter, are,

1. A thin, limpid, ſometimes greeniſh diſcharge, termed Sanies.

2. A ſomewhat red-coloured, thin, and generally very acrid matter, termed Ichor. And,

3. A more viſcid glutinous kind of matter, called Sordes.

This laſt, too, is frequently of a browniſh red appearance, ſomewhat reſembling the grounds of coffee, or grumous blood mixed with water. They are all of them much more fetid than purulent matter, and none of them are altogether free from acrimony; but that which has generally been termed Ichor, is by much the moſt acrid of any of them, being frequently ſo ſharp and corroſive as to deſtroy large quantities of the neighbouring parts.

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In conſequence of the acrimony of the different matters we have mentioned, the ulcers diſcharging them do not fill up with freſh granulations, but waſte away more and more; and, inſtead of a red healthy complexion, they have either a dark brown, or ſometimes a black ſloughy appearance. The pain in all of them is conſiderable; and is generally more or leſs ſo, according as the matter afforded is more or leſs corroſive.

As cauſes of this ſpecies of ulcer may be mentioned, all ſuch as we have taken notice of in the preceding ſection, namely, wounds in general, burns, bruiſes, and in ſhort all thoſe which were enumerated as cauſes of the ſimple purulent ulcer; for even that ſpecies of the diſorder, however mild it may have been, if it happens to be either neglected, or to be dreſſed with improper irritating applications, very readily degenerates into the vitiated ulcer of which we are now ſpeaking.

It is not improper here to obſerve, too, that ſuch changes in ulcers, from the ſimple

to

to thoſe of a more inveterate kind, happen much more frequently in particular parts than in others: thus from the tendons and aponeurotic expanſions of muſcles not affording that ſpecies of ſerum neceſſary for the formation of good pus, ſuch ulcers as are ſeated in theſe parts commonly prove much more troubleſome and inveterate than thoſe which are ſeated in the cellular membrane, where a plentiful ſecretion of a fluid proper for this purpoſe generally takes place.

In ulcers of the kind which we are now conſidering, that are merely local, and that are not connected with any diſorder of the ſyſtem, when they have not been of long duration, and more eſpecially when they occur in young healthy patients, the prognoſis ſhould always be favourable. But, when the oppoſite circumſtances take place; when the patient is very old; the ulcer extenſive, inveterate, and of long ſtanding; the prognoſtic ſhould always be very doubtful.

§ 2.

§ 2. *Of the Cure of the ſimple vitiated Ulcer.*

We have already remarked, that the bad qualities of the matter afforded by ulcers, proceed, in general, from ſome particular affection of the ſolids or ſecreting organs in the parts diſeaſed, whereby ſuch kinds of fluids are ſeparated from the blood as cannot be converted into good pus. The nature of this affection, too, we have endeavoured to explain; and, from the ſeveral arguments formerly advanced, it appears evidently to conſiſt in different degrees of inflammation, or of increaſed action in the veſſels of the parts diſeaſed, occaſioned by one or other of the ſeveral exciting cauſes which give riſe to ulcers.

Independently, too, of what was formerly advanced in ſupport of this opinion, it ſeems to be farther confirmed by the nature of the different remedies found to be moſt effectual in the cure of ſuch diſorders, which are chiefly of that kind which have evidently very powerful effects in eaſing pain and abating irritation.

Thus

Thus warm emollient fomentations and cataplaſms, in a very ſhort ſpace, ſometimes even in the courſe of twenty-four hours, will frequently not only give the patient a great deal of relief from pain, but will even produce a conſiderable amendment in the nature of the diſcharge; and, by being continued for a longer time, till the tendency to inflammation is thoroughly removed, they will, very frequently, without any farther aſſiſtance, convert the matter, however bad it may have been, into a natural and good pus.

The moſt proper method of proceeding, therefore, in the treatment of all ſuch ulcers, is to foment the parts three or four times a-day, for half an hour at leaſt each time, with an emollient decoction; and then to apply pledgits of the wax-ointment, as was formerly recommended, with warm poultices over all, to be renewed as frequently as they turn cold.

In ſores of this nature, when the pain is conſiderable, as nothing more quickly promotes the cure of ſuch diſorders than the

the removal of pain, it frequently becomes neceſſary to have recourſe to opiates, which, in ſuch circumſtances, are often uſed with much advantage: and when they are employed, they ſhould always be given in ſuch doſes, and theſe ſhould be as frequently repeated, as the violence of the pain may indicate.

The habit of body muſt, in the mean time, be alſo attended to, and particular directions given with reſpect to it, according to the immediate ſituation of the patient. Thus, when from a long continuance of an ulcer, or from any other cauſe, the conſtitution has been much reduced, we ought, by a full allowance of diet, to endeavour to repair it; and when, on the contrary, the patient is of a full plethoric habit, and has formerly been liable to inflammatory affections, it then becomes proper to keep him rather upon a low regimen.

In ulcers of this kind, which occur in the former of theſe circumſtances, namely, in low reduced habits, the Peruvian bark

proves

proves often efficacious: in ſuch ſores, indeed, it acts frequently as a very powerful remedy, and particularly in effecting a change for the better in the nature of the diſcharge.

The bark, however, in order to produce ſuch an effect, requires to be given in much larger quantities than are commonly exhibited: It is ſeldom given in any complaint of this kind to a greater extent than three or four doſes in the day, of a ſcruple or half a drachm each; whereas, when any remarkable advantages are expected from it, ſix or eight doſes of a drachm each ſhould always be given in this ſpace of time; and, in ſuch quantities, it ſeldom fails of proving a very effectual remedy.

It muſt be obſerved too, that, in the manner we have directed, very little more of the remedy ever becomes neceſſary, than what, upon the whole, is commonly exhibited in the uſual way of giving it in ſmall doſes; for with large doſes, and theſe being frequently repeated, more real advantages are in general obtained in the courſe

of

of twelve or fourteen days, than are uſually experienced from its being continued a great number of weeks in ſmall doſes.

In ſuch caſes of ulcers, however, as occur in inflammatory conſtitutions, and in plethoric habits, the bark muſt be uſed with greater caution; and, in theſe circumſtances, indeed, it ſhould ſeldom be given to any extent, till the tendency to inflammation has in a good meaſure diſappeared.

The ſeveral circumſtances in the cure which we have enumerated being all duly attended to, whilſt at the ſame time the part affected is kept at reſt and in a proper poſture, it rarely or never happens that the diſcharge is not ſoon converted into good pus; and when once this is accompliſhed, every other appearance of the ſore, in a very ſhort time, generally changes for the better. At leaſt this is commonly the caſe, unleſs the ulcer happens to be connected with ſome general diſorder of the ſyſtem; a circumſtance we do not here ſuppoſe to occur, and which would conſtitute, indeed, a ſpecies of ſore diffe-

rent from that which we are now conſidering.

As ſoon as the diſcharge is converted into a proper ſuppuration, the moſt material part of the cure is thus, in a great meaſure, effected: for the parts being no longer corroded by a conſtant immerſion in an acrid matter, but, on the contrary, being covered by the moſt natural balſam that can be applied to them, they commonly ſoon put on a red healthy appearance; and new granulations being now at liberty to form, any loſs of ſubſtance which occurred, comes as far as poſſible to be ſupplied, and this in a longer or ſhorter ſpace of time, according to the depth and ſize of the ulcer, ſituation of the part affected, and the age and habit of the patient.

Sores of this kind being by theſe means reduced to the ſtate of ſimple purulent ulcers, are to be treated during the remainder of the cure exactly in the manner we have directed in the preceding ſection: that is, with very mild dreſſings; at the ſame time that due attention is paid to the pre-

preſervation of a proper degree of heat in the parts, together with the uſe of a gentle compreſſion, from the time of the inflammatory ſymptoms having been thoroughly removed.

It frequently happens, however, in this as in every ſpecies of ulcer of long ſtanding, that although the parts, by proper management, may have been brought to put on a very healthy appearance; and although the diſcharge has, from a very bad ſort of matter, been converted into the beſt kind of pus; yet ſtill the ſore cannot be got to cicatriſe, but continues to diſcharge as plentifully as ever.

When, in ſuch a ſituation, the different directions we have given in the laſt ſection with reſpect to the cicatriſation of ſores, do not ſucceed, as may frequently be the caſe, an iſſue of a proper ſize, inſerted in any convenient ſituation, will often contribute more towards the accompliſhment of a cure, than all the applications which are generally uſed in ſuch caſes.

And, indeed, in old habitual ulcers of every kind, nothing but the introduction of adequate drains will ever produce permanent cures: for although, by the uſe of drying aſtringent applications, the ſores may be covered with a thin cicatrix or ſcarf-ſkin; yet, in caſes of this nature, ſuch cures are ſeldom of any long duration.

For, independently of the danger which ariſes from the practice of healing old drains before new ones are inſerted in their place, any cicatrix obtained by means of aſtringent applications, being very weak, generally ſoon burſts open, in conſequence of that redundancy of fluids which muſt always be induced in the ſyſtem by the retention of that conſiderable quantity of ſerum, which for a long time the conſtitution had been accuſtomed to throw off, for a ſupply of pus to the ulcers.

In all ſuch ulcers, therefore, and indeed in every ſpecies of the diſorder that has been of long ſtanding, the firſt part of the cure ought to conſiſt in the introduction of an iſſue of ſuch a ſize as may afford a quan-

tity

tity of matter in ſome degree proportioned to that which the ſore has generally yielded. And although the ſituation of ſuch drains has commonly been choſen as near to the part affected as poſſible; yet, provided the ſame quantity of matter be diſcharged, the ſituation of the iſſue is not probably of much conſequence; and therefore, that which is moſt convenient for the patient may be always fixed upon.

The iſſue having diſcharged for ſome time, and the different remedies formerly recommended being ſtill continued, the cure of ſuch ulcers will at laſt be commonly completed.

Since the firſt edition of this work was publiſhed, the good effects to be obtained from iſſues in the cure of old habitual ulcers have in various inſtances been experienced. In ſome of theſe, cures were obtained by iſſues, when every other means of relief had been found to fail: And in others, the ſores broke out again upon allowing the iſſues to dry up, and were

again cured by having recourſe to the ſame means.

Various inſtances might likewiſe be given from authors, not only of the difficulty of curing habitual ulcers unleſs an iſſue be previouſly inſerted, but of very pernicious conſequences reſulting from it. But as the experience of every practitioner muſt have furniſhed inſtances of this, we do not think it neceſſary to refer to books for authorities.

In ſores which have not been of long duration, however extenſive they may be, it would be highly improper to put the patient to the trouble of an iſſue for their cure. In recent ulcers, the ſyſtem has not been ſo long accuſtomed to the diſcharge, as to induce any riſk from a ſtop being put to it; we wiſh, therefore, to have it underſtood, that it is not in ſuch ſores they are meant to be recommended: But in ulcers of long continuance, we muſt again ſay, that a cure can never be attempted with ſafety, unleſs an iſſue of an adequate ſize be previouſly inſerted.

As

As iſſues of every kind are attended with ſome inconvenience, they ſeldom prove agreeable to patients; and from this conſideration, practitioners are frequently induced to diſpenſe with them: The leaſt attention, however, muſt render it evident, that no conſideration of this nature ought to have any influence.

It is in the ſpecies of ulcer we are now conſidering that the internal uſe of nitre has been ſo much recommended; but, although I have given it, in this as well as in other kinds of ſores, in very conſiderable quantities, and with every neceſſary precaution, I cannot ſay that I ever obſerved any evident effects produced by it. Sores, indeed, have been cured in which nitre was uſed; but unleſs the roller and other local applications were employed at the ſame time, this remedy, in any of the trials I have made of it, has never of itſelf been able to effect a cure.

SECTION IV.

Obſervations on the Fungous Ulcer.

FUNGOUS excreſcences frequently occur in different ſpecies of ulcers; and very often increaſe to ſuch a degree as to conſtitute ſores extremely different in their appearances and effects, as well as in their treatment, from the ſores which originally induced them: and this is the reaſon for our alloting a ſeparate ſection for their conſideration.

§ 1. *Symptoms and Cauſes of the Fungous Ulcer.*

BY the term fungus is underſtood ſuch preternatural riſings of the parts in ſores, as are commonly more ſoft and ſpongy than ſound healthy granulations; which, though they do not in general acquire any great degree

degree of bulk, yet by very long continuance and neglect, they do, in ſome inſtances, arrive at very conſiderable ſizes: And although, as we have obſerved, they are generally at firſt lax and ſoft, yet, when of long duration, they likewiſe, in ſome caſes, acquire very great degrees of hardneſs.

The pain attending them is not commonly conſiderable; though, in ſome inſtances, it is otherwiſe; and the diſcharge afforded by them varies according to the ſpecies of ulcer they happen to be connected with.

Thus, when a hyperſarcoſis, the term commonly uſed for ſuch riſings in ſores, occurs merely from neglect in a ſimple purulent ulcer, the diſcharge frequently continues all along tolerably good; and, on the contrary, when it is connected with an ulcer diſcharging any of the more acrid vitiated matters, as in ſome inſtances is the caſe, the diſcharge uſually continues to be of the ſame nature.

With reſpect to the cauſes of the diſorder;

der; when ſpeaking of ſimple purulent ulcers, it was obſerved, that in a healthy ſtate of body, and eſpecially in young people, the new granulations that form in ſuch ſores are very apt to puſh forward too much, ſo as to riſe above the ſurface of the neighbouring parts. This, by attending to the directions which were then given, may very often be effectually prevented; but if, in ſuch circumſtances, the ſore be neglected, and the parts are allowed to advance much further, the diſorder of which we are now ſpeaking comes then to take place. And if it is not attended to for yet a ſtill longer time, as with poor people eſpecially is frequently the caſe, even this the moſt ſimple ſpecies of fungus degenerates into a very troubleſome diſorder; it being in this manner that the very hardeſt excreſcences are commonly produced.

Another variety of the diſorder is ſometimes met with in the cure of wounds and ulcers of different kinds, from not attending to their being ſound at bottom before the new granulations are allowed to proceed

proceed any length. In this manner, whether from any ſinus not being filled up, or from any corrupted parts, that may not have been thrown out, continuing to act as extraneous bodies, the granulations that firſt appeared ſtill continue to advance; but, inſtead of cicatriſing when they are on a level with the neighbouring ſound parts, they go on riſing conſiderably beyond them, till the diſeaſe we are now conſidering is of ſome duration.

And, when in this way a fungus has once commenced, it continues to increaſe from day to day, till the cauſe which originally produced it is diſcovered, and removed, either by art or nature, in conſequence of a plentiful ſuppuration being formed below, and burſting out; which, by laying open the ſeat of the diſorder, gives room for a proper treatment to take place.

§ 2.

§ 2. *Of the Cure of the Fungous Ulcer.*

By a proper attention to the caſe, and to the different cauſes we have mentioned, it will, in general, be eaſily diſcovered from which of the two the diſeaſe has originally proceeded: and, as ſoon as the cauſe is diſtinctly known, the method of cure to be purſued is juſt as certainly determined; which, till then, could not with propriety be undertaken, as, in the two different caſes, the remedies found to be neceſſary are of very oppoſite natures.

When it is found that the fungus has been induced merely by an overgrowth of parts, and that there is no diſeaſe lurking at the bottom of the ſore; when the tumor is of a conſiderable breadth, and eſpecially when it does not riſe to any great height; we ſhould have recourſe immediately to the uſe of eſcharotics.

Of ſuch applications, a great variety has been recommended: by many, even the actual cautery has been propoſed; and by others,

others, we are directed to remove at once all fungous parts by the ſcalpel.

Either of theſe methods would, no doubt, prove in every caſe very effectual, and a great deal more expeditious than any other that can be recommended: but they have ſuch an appearance of ſeverity, as to deter almoſt every one from ſubmitting to them; eſpecially as it is well known, that the diſorder we are treating of can be juſt as certainly, though perhaps not ſo quickly, removed by means of much more gentle remedies.

Of all the artificial cauſtic preparations enumerated by authors, the lunar cauſtic is, for ſuch purpoſes eſpecially, by much the beſt. It acts more quickly, and does not produce more pain, than many of the milder ſorts; it never fails to produce the proper effect, which is not the caſe with any of the others; and it is not near ſo apt to run and to ſpread over the neighbouring parts, as ſome of the other compound forms of cauſtic, which is frequently a very troubleſome circumſtance attending their uſe.

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The cauſtic ſhould be liquefied; and a ſmall bruſh or pencil being dipt in it, it is in this manner to be applied to ſuch parts as are to be deſtroyed: And this being done either daily or every ſecond day, the fungus will be removed in a longer or ſhorter time, according to the ſize and firmneſs of the tumor. A ſtrong ſolution of verdigriſe in water, of crude ſal ammoniac, or of blue or white vitriol, being applied in a ſimilar manner, will commonly prove effectual too, in removing ſuch excreſcences.

In the courſe of practice, caſes occur in which ſome variety of ſuch applications is found to be neceſſary: I have made trial of a great number; but none ever proves ſo generally uſeful, as we ſaid above, as the lunar cauſtic. For purpoſes of this kind, I have ſometimes uſed a ſtrong ſolution of ſilver or of crude mercury in ſpirit of nitre; and the effects of it, as may readily be imagined, are always very powerful: they are nearly the ſame, indeed, being only ſomewhat more powerful than thoſe we commonly experience from lunar cauſtic; this kind of cauſtic

ſtic being merely a ſolution of ſilver in the nitrous acid evaporated to dryneſs.

One ounce of pure quickſilver will diſſolve in an ounce and a half of ſtrong ſpirit of nitre; and this forms, perhaps, as ſtrong a cauſtic as can be prepared. For other purpoſes, where milder applications of this kind are neceſſary, the ſtrength of the remedy may be reduced by uſing a ſmaller proportion of mercury and a weak nitrous ſpirit: But for the removal of a hard callous excreſcence, the ſtrongeſt ſolution ought to be employed; it gives no more pain than thoſe of a weaker nature, and it always proves more effectual. We may here remark, too, that a ſtrong ſolution of this kind is perhaps the moſt effectual of any cauſtic application in the removal of warts of every kind, and particularly for thoſe which originate from a venereal cauſe. But in uſing it, either for warts, or for ſuch fungous excreſcences as we are now deſcribing, it ought never to be applied to an extenſive ſurface at once. When the fungus is inconſiderable, a ſmall quantity of the

the ſolution may be applied over the whole of it without any riſk: But, in extenſive affections of this nature, it anſwers better to apply it to a ſmall portion of them only; and if different parts of an excreſcence be touched with it daily, the whole will in general be ſoon removed. After the application of any of theſe articles, the parts ſhould be covered with dry lint; and not, as is commonly done, with any kind of ointment, which always tends to deſtroy the activity of every cauſtic remedy.

We have hitherto been ſuppoſing, that the ſurface of the fungus is of a conſiderable extent, and that it is not raiſed to any great height above the contiguous ſound parts: But whenever the reverſe of theſe circumſtances takes place, that is, when there is a narrow baſe, and the height of the excreſcence is conſiderable, the moſt expeditious and eaſieſt method always is, to take it off by a ligature; which being applied at its root tolerably tight, and ſtraitened a little every day, ſoon deſtroys the circu-

circulation in the ſwelling ſo entirely, as to cauſe it in a ſhort time to drop off.

When the riſing is, as we have obſerved, narrow at the baſe, and eſpecially when it is in the leaſt pendulous, a ligature can be applied and kept on with the greateſt eaſe; but when the tumor is broader below than above, it is not poſſible, without ſome aſſiſtance, to prevent it from ſlipping off. It may always, however, be certainly and very eaſily effected in the following manner.

A ſtrong ſtraight needle, fixed in a handle with an eye near to its point, being puſhed through from one ſide of the tumor to the other at its baſe, and two ſtrong waxed threads being introduced at its eye, it is to be again drawn back, leaving the threads with their ends hanging out at each ſide of the ſwelling. In this ſituation, a firm ligature is to be formed round one half of the tumor by the two extremities of one of the threads; and with the other two, the other half is in like manner to be comprehended; and each of them being from time to time properly tightened, both halves of

the ſwelling will for the moſt part very ſoon fall off. The hint of the practice we have here recommended, was taken from the deſcription of a curved needle of this kind, recommended by Mr Cheſelden, for the extirpation, by ligature, of diſeaſed tonſils, which, without ſome ſuch contrivance, could never with propriety be attempted.

The fungus being by either of theſe methods removed, the ſore is then to be treated in the manner we have already directed for the management of ſimple purulent ulcers.

The other ſpecies of fungus we have mentioned, that proceeds, as we obſerved, from the new granulations in ulcers not being raiſed on a ſure foundation, by purulent matter or ſome other extraneous body being lodged at the bottom of the ſore, is, in general, very eaſily diſtinguiſhed from the preceding ſpecies. It riſes with much greater rapidity, and is not near ſo firm; on the contrary, indeed, it is always more ſoft and flabby even than healthy granulations.

By

By attending to theſe, and all the other circumſtances of the ulcer, the cauſe will ſeldom remain long in doubt; and as ſoon as it is diſcovered, the firſt thing to be done, is to give free vent to the confined matter, by making a proper opening into it. After which, by taking care that the ſore fills properly up from the bottom, the cure will go eaſily on in the ordinary way. Nor, unleſs when the fungus is very conſiderable, can there ever be any occaſion for the uſe of eſcharotics; for, in ſuch caſes, the granulations are commonly ſo ſoft and ſpongy, as to waſte away of themſelves in the courſe of the cure, without any aſſiſtance whatever from cauſtics.

Theſe are the only caſes of fungus, which, in general, in local ulcers ever prove troubleſome; excepting, perhaps, that which occurs as a ſymptom in carious ulcers, and which in its proper ſection will be taken notice of. It may be alledged, indeed, that the varieties we have now deſcribed may be conſidered as ſymptomatic; and for this reaſon, it may be ſaid, that

they ſhould not be allowed to conſtitute diſtinct complaints: For the reaſons we have formerly given, however, and particularly from their treatment being very different from that which is neceſſary in any other ſymptom of ulcer, it was thought proper to allot a ſeparate ſection for their conſideration.

SECTION V.

Obſervations on the Sinuous Ulcer.

§ 1. *Of the Symptoms and Cauſes of the Sinuous Ulcer.*

BY the term ſinuous ulcer, is meant that ſpecies of ſore communicating with one or more openings or cavities of various ſizes

ſizes and dimenſions, which are generally ſeated in the cellular membrane, between the common teguments and muſcles, or between the interſtices of the muſcles themſelves.

Theſe different ſinuſes ſerving as reſervoirs both for the matter formed in the body of the ſore, and for that which is afforded by the ſides of their own cavities, make the diſcharge of all ſuch ulcers, when the matter of the ſinuſes is preſſed into them, appear to be much more conſiderable than their extent of ſurface would give cauſe to expect.

A ſinus, as thus deſcribed, is the moſt ſimple ſtate of the diſorder: but by long continuance, or by the uſe of drying aſtringent applications, it is liable to become hard and callous in its internal ſurface; and, in ſuch a ſtate, from its ſuppoſed reſemblance to a pipe, it is termed a fiſtula; of which nature is the fiſtula in ano, a well-known and troubleſome diſorder.

The moſt frequent cauſe of the formation of ſinuſes in ulcers and abſceſſes, is the

want of a free vent to the diſcharge; which, naturally falling to the moſt depending ſituation of the part, if it does not there find an eaſy and ready paſſage by an opening being made into it, it very readily inſinuates itſelf into the ſoft yielding ſubſtance of the cellular membrane, and proceeds on gradually till it ſomewhere or other makes an opening for itſelf, either upon the ſurface of the body, or into ſome of the neighbouring cavities.

Very tight bandages, too, when applied directly upon ulcers, if they are not made to act likewiſe upon the neighbouring ſound parts, for ſome way both above and below the ſores, are not unfrequently attended with the ſame effect; and ſhould never, therefore, be applied in this manner.

In every caſe of recent ſinus, and even, in general, in thoſe of longer ſtanding, when theſe are ſo far acceſſible as to admit of proper applications being made to them, and when the conſtitution in other reſpects is healthy, we may almoſt always venture

venture to make a favourable prognoſis. But when the complaint has been of very long continuance, and eſpecially when the different ſinuſes open into any of the joints, or are beyond the reach of an operation, a cure, in ſuch caſes, becomes both very difficult and doubtful. Nor is there, indeed, any diſorder that more frequently baffles the ingenuity of ſurgeons, than ſome ſpecies of this diſorder, particularly the fiſtula in ano.

§ 2. *Of the Cure of the Sinuous Ulcer.*

In recent affections of this nature, we are directed by all the old writers, as likewiſe by many of the moderns, to make uſe of what they call vulnerary or healing injections. And, in the more advanced ſtates of the diſorder, when by long continuance the ſides of the different ſinuſes have become callous, eſcharotic injections and powders have been recommended: But none of theſe have ever been found to produce any permanent good effects, and

the too frequent uſe of them has often rendered hard and callous ſuch ſinuſes as before were of the moſt ſimple nature.

Others again have adviſed, in every caſe of this kind, eſpecially when the complaint is in any degree of a fiſtulous nature, to lay the different ſinuſes open from one end to the other, and, by cutting out all the hardened parts, to convert the whole into one common ulcer, and to proceed afterwards with the cure in the ordinary manner.

This method will, no doubt, very frequently effect a cure; but, independently of the great pain, and very large unſeemly cicatrix, which it never fails to produce, it cannot, in every caſe, with ſafety, be put in practice.

Thus, when ſinuſes run very far up the rectum, it can never conveniently be practiſed; and when, as is frequently the caſe, they penetrate deep, and run below either large blood-veſſels, tendons, or nerves, it would never ſurely, in theſe caſes, be adviſable to have recourſe to ſuch treatment.

But although the practice was even altogether

together free from danger, it ought in almoſt every inſtance to be laid aſide; ſince we can, by a much more ſimple and leſs painful operation, be always as certain of obtaining a cure, as we ever could be, either by a ſimple inciſion, or by an entire deſtruction of the parts.

The intention of cure in every caſe of ſinus, is to produce a coaleſcence of its ſides, ſo as to deſtroy any vacuity that may have been occaſioned.

The moſt effectual means for accompliſhing this, is, firſt to make a depending orifice for a free exit to the matter; and then, by a gentle irritation, to induce, on the internal ſurface of the ſinus, a ſlight degree of inflammation, which by experience is known to be the ſtate which proves moſt favourable to the production of adheſion between any two parts; ſo that a firm union of the ſides of the ſinus to one another may in due time be obtained.

Now both theſe intentions are fully anſwered by the introduction of a ſeton, from the orifice in the ulcer, along the courſe of

of the ſinus, to its other extremity; where an opening, large enough for the diſcharge, ought to be made in the manner we formerly directed in caſes of abſceſs.

The cord of cotton or ſilk ought at firſt to be pretty large, more or leſs ſo according to the capacity of the ſinus; and it ſhould be diminiſhed gradually, as the cure advances, by taking away a thread or two from its thickneſs every ſecond or third day. And at laſt, when the diſcharge is greatly leſſened by the filling up of the vacuity occaſioned by the ſinus, the ſeton ſhould be totally withdrawn; and a bandage being applied with ſome tightneſs over the part, and being continued a ſufficient length of time, a complete cure will for the moſt part be effected.

The firſt ſtep to be taken then, in all caſes of this kind, is to diſcover the direction in which the ſinuſes run; which commonly we can eaſily do, either by the introduction of a probe, or by obſerving where the matter points on being allowed to collect for ſome time, and from whence it

it comes, on the part being preſſed. And into every ſinus that opens into the ulcer, a ſeton, as we have above directed, ſhould be introduced.

This method of curing ſinuſes, by the uſe of the ſeton, is free from all manner of danger, and is admiſſible in almoſt every caſe that can occur. Even when ſinuſes run deep among the muſcles and blood-veſſels; and when it would be unſafe, therefore, to uſe either the ſcalpel or acrid injections; a ſeton, introduced by means of the director, as we formerly recommended in the treatment of abſceſſes, may be always employed with much ſafety and advantage.

The practice we have here recommended is ſeldom found to fail in any caſe of ſimple ſinus; and, in general, it anſwers even in thoſe which are conſidered as real fiſtulæ.

Although it would be very inconvenient in ſuch a ſituation, yet I am much perſuaded, from its general utility in ſimilar caſes in other parts, that the ſeton would prove a much more effectual remedy in caſes

caſes of the fiſtula in ano, than any other that has as yet been employed. In ſimilar caſes of this kind that occur in the perineum, I have known it uſed with the greateſt advantage: And it is in this ſituation, indeed, particularly proper; as the cicatrix formed after the opening of a long ſinus in the common method, with a ſcalpel, proves in theſe parts frequently more troubleſome and painful to the patient, than even the original diſeaſe it was intended to remove.

The ſinuſes, by theſe means, being at laſt filled up, the ulcers with which they have been connected are then to be cured in the ordinary manner, as we have directed in one or other of the different ſections, for the ſpecies of ſore to which they may happen to belong.

This part of ſurgery, it may be obſerved, is much indebted to the ingenious Mr Pott, for the ſimplicity he has been in a great meaſure the means of introducing in the treatment of fiſtulous complaints in ano and in perineo. In all of which,

which, as we have already remarked, it uſed formerly to be, and with many indeed ſtill is, the practice to cut out the affected parts entirely, whether they are much hardened or not: which not only occaſions a great deal of unneceſſary pain, but very ſeldom produces ſuch an agreeable or ſpeedy cure as is obtained by merely laying the parts open with a ſimple inciſion; and which is all that, even in the moſt obſtinate caſes, ſhould be ever attempted. For, if a cure cannot be obtained by ſuch an operation alone, or by the ſeton when it can be uſed, as we have lately adviſed, cutting out the parts never will effect it, unleſs they are all evidently in a very hard callous ſtate; in which caſe, extirpation of the diſeaſed parts may no doubt in ſome caſes, be neceſſary. Even when a very conſiderable degree of hardneſs prevails, much advantage is often derived merely from laying the ſinuſes open by a ſimple inciſion along the courſe of each of them: The free vent which is thus given to the diſcharge, together with the

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new ſuppuration induced by the inciſions, proves frequently a very certain means of removing the calloſities; and this being accompliſhed, a complete cure is commonly obtained.

SECTION VI.

Obſervations on the Callous Ulcer.

§ 1. *Of the Symptoms and Cauſes of the Callous Ulcer.*

AN ulcer is ſaid to be callous, when its edges, inſtead of contracting, and diminiſhing the ſize of the ſore, keep at a ſtand, turn ragged, and at laſt, by acquiring a preternatural thickneſs, often riſe conſiderably above the level of the neighbouring parts: And, as it is generally from

from neglect, or improper treatment, that ulcers do turn callous, the diſcharge afforded by them is commonly a thin vitiated matter.

It is in this ſpecies of ulcer chiefly too, that varicoſe veins occur as a ſymptom, eſpecially when the complaint is ſeated in the lower extremities. This ſeems to be owing, not only to the difficulty the blood, in ſuch ſituations, meets with in its return to the heart; but, in a great meaſure, to the ſtricture occaſioned by the calloſities on the courſe of the different veins; a circumſtance which, in extenſive ſores of this kind, muſt, no doubt, have a conſiderable influence.

By many, and even by late writers, this ſpecies of ulcer has been commonly termed varicoſe; from their ſuppoſing ſuch ſores to proceed from, and to be as it were fed by, matter furniſhed to them from theſe ſwelled veins, which frequently have the appearance of opening into them *.

This error, however, it is evident, muſt have

* See Turner's Art of Surgery, Vol. II. p. 3.

have proceeded from want of attention to the cauſe of ſuch ſwellings in the veins; together with the miſtaken notion which has hitherto prevailed reſpecting the formation of pus and other kinds of matter; which were formerly, in general, ſuppoſed to circulate with, and to be depoſited from the blood; but which, in the preceding eſſay, we have endeavoured to demonſtrate to be an opinion entirely void of any real foundation.

With reſpect to the cauſes of calloſities in ulcers, it may be remarked, that they may all be reduced to the general head of neglect and improper management. When ſores are injudiciouſly treated, either by irritating or by very relaxing applications; or when they are entirely neglected, ſo that fungous excreſcences are either allowed to ariſe, or different dreſſings and other extraneous bodies are permitted to remain too long in their cavities; ſuch ſubſtances come at laſt to act as impediments to the farther diminution or contraction of the ulcers. And, the ſmall veſſels of their edges

edges being thus prevented from proceeding farther in a proper direction, are forced to puſh upwards, and ſometimes even backwards, till, in conſequence of the uſual preſſure from the neceſſary bandages, they naturally come to acquire a morbid hardneſs or calloſity; which, as long as it is allowed to remain, very effectually prevents the accompliſhment of a cure, however judiciouſly the ſores may in other reſpects be treated.

§ 2. *Of the Cure of the Callous Ulcer.*

From the conſideration of the above-mentioned cauſe of the diſorder, the firſt ſtep towards a cure, it is evident, ſhould conſiſt in its total removal.

Thus every improper application, which, till now, may have been uſed, ſhould be immediately laid aſide; and if any fungus or other extraneous body appears to be doing miſchief, theſe and every other obſtruction to a cure ought as ſoon as poſſible to be removed. This being too thoroughly

accompliſhed, and the ſore being brought to a clean healing condition, the different calloſities are then to be deſtroyed; for, till they are effectually removed, it is in vain by any kind of application to expect a cure.

In very recent inſtances of ſuch complaints, warm emollient cataplaſms, when continued for a proper length of time, by ſoftening the calloſities, will frequently, without any other application, anſwer every intention of cure. But it is in the earlieſt periods of the diſorder only that theſe ever prove effectual; for when it has been of long duration, ſo that the edges of the ſore have acquired much preternatural hardneſs, neither the uſe of emollients nor of gum-plaſters, as we find in ſuch caſes recommended by many authors, are ever attended with any remarkable advantages.

The only remedy then we can have recourſe to, is the ſcalpel or cauſtic: And as this laſt, when properly managed, is equally certain with the other, it ſhould, as the eaſieſt method, be always employed; and, for

for reaſons we have mentioned in a former ſection, the lunar cauſtic ſhould be here likewiſe preferred. The ſolution of ſilver or of mercury, of which we gave a deſcription when treating of the fungous ulcer, may be uſed with equal propriety here too: Either this, or the lunar cauſtic, ſhould be applied every two days to the callous edges of the ſores, which in this manner will be ſoon deſtroyed. By this means, together with a continuation of the poultices ſo long as any degree of foulneſs remains in the ſores, they will ſoon be reduced to the ſtate of ſimple purulent ulcers, when the treatment we have recommended for that ſpecies of ſore will ſeldom fail in accompliſhing a cure.

In the liſt of ſymptoms which we formerly enumerated, varicoſe veins were mentioned as one. Theſe, it might be imagined, when the cauſe which produced them was removed, would likewiſe diſappear. This, however, is very ſeldom the caſe; for blood-veſſels, which have once ſuffered ſuch a diſtention as to be deprived

entirely of their tone, do not often ſoon recover it. In the treatment, therefore, of this ſpecies of ulcer, it is not merely neceſſary to remove the cauſe which originally produced theſe ſwellings in the veins: ſome ſupport muſt be afforded to the weakened parts in order to enable them the more eaſily to recover their uſual ſtrength.

For this purpoſe, nothing has hitherto proved ſo effectual as the laced ſtocking, or ſpiral bandage, which we have already recommended ſo frequently for different circumſtances in the cure of ſores. In order to have a proper effect, however, in every caſe of varix of long duration, it ought to be continued for a very conſiderable time: And it rarely happens, we may remark, that any inſtance occurs of the diſorder being ſo bad, in which a cure may not be obtained merely by the means we have recommended; or at leaſt, that the inconvenience produced by the ſwelling of the veins may not be ſo far palliated as to render quite unneceſſary that painful operation ſo frequently recommended of extirpating, as in caſes

caſes of aneuriſm, the diſeaſed or ſwelled parts.

The effects of preſſure in the cure of ſores we have already taken different opportunities of mentioning; but they are particularly remarkable in ulcers with callous edges. In ſores of this kind, this hardneſs or callofity of their edges, is not the only impediment to a cure: the contiguous parts are always much tumefied; an occurrence which muſt be entirely removed before any permanent cure can be obtained.

This ſwelling of the neighbouring parts originates moſt probably from obſtructions taking place in the ſmaller veſſels of the edges of the ſores, in conſequence of preſſure produced by the callofities which ſurround them: And accordingly it will ſometimes ſubſide merely by the effects of emollient poultices in removing this hardneſs by which the tumefaction was induced.—But when theſe do not prove altogether effectual, preſſure obtained by a proper and continued uſe of a flannel rol-

ler, will in almoſt every inſtance complete the cure.

SECTION VII.

Obſervations on the Carious Ulcer.

§ 1. *Of the Symptoms and Diagnoſis of the Carious Ulcer.*

BY the term Carious Ulcer, is here underſtood that ſpecies of the diſorder only, which is connected with a local affection of a bone. For although the ſpina ventoſa, rickets, and ſome other diſorders of the bones, may, in particular circumſtances, perhaps, come under the ſame denomination; yet as it is probable, that ſuch affections of the bones as occur in theſe diſeaſes, are connected with, and depend

pend upon, ſome general diſorder of the ſyſtem, and which with more propriety comes under the province of medicine than of ſurgery, to enter upon their conſideration at preſent would evidently be deviating very much from our plan: All that is now intended is, to give as clear and conciſe a deſcription as poſſible of that ſpecies of caries in which ſurgery is more particularly concerned, and in which, by proper attention, we often have it in our power to be of more real ſervice, than in almoſt any other chronic diſorder that comes under the management of a ſurgeon.

It may likewiſe be obſerved, that ſo far as thoſe diſeaſes of the bones above mentioned are to be conſidered as local affections, which, after the removal of the general diatheſis which produced them, they frequently are, the different directions we are afterwards to give will be found to apply with equal propriety to them as to the moſt ſimple caſes that occur.

The moſt clear and ſimple idea that can be given of a caries, is, that it is a diſorder

of the bones exactly of the ſame nature with a ſphacelus or gangrene of the ſoft parts; a circumſtance which, we think, is very clearly demonſtrated both from the ſymptoms, cauſes, and method of cure.

As the blood-veſſels in bones are not near ſo numerous in proportion as they are in the ſofter parts of the body, the anaſtomoſing of different veſſels cannot occur in them ſo frequently; ſo that, when any conſiderable artery of a bone happens to be deſtroyed, the parts ſupplied by it naturally ſuffer much more than any of the ſofter organs would do from a ſimilar cauſe.

And, as all the blood-veſſels of bones are known to paſs to them through their ſurrounding membrane the perioſteum, upon which they generally run for a conſiderable way before penetrating deeper, it is not very uncommon for a caries to occur in a bone which has ſuffered no other apparent injury than that of having a very ſmall portion of its membrane deſtroyed.

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We do not, however, mean to ſay, that a caries muſt always neceſſarily follow a deſtruction of a part of the perioſteum; for the contrary of this is frequently known to happen: And unleſs the injury has been ſo conſiderable, as at the ſame time either to affect the ſtructure of the bone itſelf, or to occaſion, as we have already obſerved, the deſtruction of ſome principal artery, a caries will never occur merely from an abraſion of the perioſteum; but whenever an accident has produced either of theſe effects, the other will almoſt conſtantly be found to follow.

From the firſt appearance of a bone after it is laid bare, unleſs its ſubſtance has been evidently affected, we can never at once determine preciſely, whether a caries will ſucceed or not. In mere abraſions of the perioſteum from ordinary accidents, I would, from a number of obſervations, conclude, that there is at leaſt an equal chance that it will not: a ſhort time, however, will commonly reſolve the uncertainty.

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For if, at the end of the fourth day at fartheſt, a bone that has been denuded ſtill retains its natural appearance, we may in general conclude, with tolerable certainty, that no carious affection is to ſucceed; and may accordingly proceed with ſafety in the treatment, as if the caſe were that of a ſimple wound only; which can never with propriety be done, whilſt any uncertainty remains with reſpect to the ſtate of the bone: And hence the great conſequence of being able ſoon to determine whether a bone laid bare is to be attacked with caries or not.

For if, from want of attention, a cure ſhould be attempted in a caſe where caries is to follow, and if the ſore ſhould be made to cicatriſe, all the new growth would be again to deſtroy, much unneceſſary pain would be given to the patient, and a permanent cure would be much longer protracted than if proper meaſures had been taken at the beginning.

In general, however, as we have already remarked, if a denuded bone is to become carious,

carious, it uſually ſhows itſelf in a very ſhort time. By the end of the third or fourth day at fartheſt, the bone begins to loſe its natural healthy appearance, turns firſt of a pale white, and then gets a ſlight tinge of a yellow complexion; and whenever this begins to appear, there can be no longer a doubt of what will be the conſequence.

It ſometimes remains, however, in this ſtate for a good many days, and by degrees gets a more deep tallow-like appearance; in which ſtate it commonly continues for a longer or ſhorter time, according to the degree of violence with which the injury has been done; and afterwards goes thro' the different ſtages of brown and dark, till it has acquired a black of the deepeſt dye, a period at which we may ſuppoſe this portion of the bone is arrived at, perhaps, the higheſt degree of mortification.

The diſcharge from ulcers of this kind, is never of the conſiſtence of good pus: it is generally conſiderably thinner; and from the firſt appearance of a caries, it acquires

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a moſt diſagreeable fetor, which always turns more conſiderable as the different ſtages of the diſorder advance; and at laſt, too, it acquires a blackiſh hue, at the ſame time that it frequently becomes exceedingly acrid.

As the ſeveral degrees of blackneſs or mortification go on, ſmall foramina or holes ſeem as it were to form in the diſeaſed parts; and by degrees increaſe conſiderably, till even the moſt ſolid bones acquire a kind of ſpongy appearance. In this ſituation, the mortified portion generally becomes looſe, and, when preſſed upon, a conſiderable quantity of a fattiſh-like matter, with an intolerable fetor, can commonly be forced out from the different openings; which ſo taints the whole diſcharge from the ulcer, and gives it ſuch a very peculiar ſmell, as to render it ſcarcely poſſible for any practitioner who has once known thoroughly what it is, ever to be deceived with reſpect to the exiſtence of a caries. Indeed this circumſtance alone affords almoſt as certain a diſtinc-

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tion in caſes of latent caries, as any that can be pointed out.

In ulcers attended with a carious bone, the fleſhy parts never have a healthy appearance; they are ſoft and more flabby than natural; and, inſtead of a florid red, they have rather a dark brown, together with ſomewhat of a glaſſy complexion.

The granulations, however, commonly advance quickly enough; and they would frequently proceed too far, if they were not prevented by art; which it is always neceſſary that they ſhould be, till the diſeaſed parts of the bone are either caſt off by the efforts of nature, or are cut out by art, ſo as that the healing of the ſore may take place with certainty from the bottom. And, when neglected for any conſiderable time, theſe ſoft productions in carious ulcers frequently increaſe ſo remarkably, as to form very large and troubleſome excreſcences.

We have hitherto been ſuppoſing, that only a portion of the ſubſtance of a bone has been affected; in which caſe a cure is ſometimes obtained by a ſingle lamina only caſting

caſting off. But the ſame phenomena likewiſe occur when the caries has been ſo conſiderable, as to affect a bone through its whole circumference. Only, in this caſe, the caries generally advances more quickly; and, in the treatment of it, it is often neceſſary that the whole ſubſtance of the bone, in the diſeaſed part of it, ſhould be taken out.

Such are the different appearances of caries proceeding from an external accident that has laid the bone fairly open to view: But the ſame kind of diſeaſe occurs frequently in a more latent manner; and, in ſuch caſes, it proves always, in every reſpect, a great deal more troubleſome.

Ulcers of long continuance above the tibia, or any other bone not thickly covered with ſoft parts, merely by the matter inſinuating itſelf to the perioſteum, and there producing an inflammation and ſuppuration of that membrane, by which the bone itſelf is apt to be eroded, very often prove the origin of troubleſome cariofities; which again, as long as they remain, prevent effectually

fectually the proper cure of all ſuch ſores, notwithſtanding the uſe of every remedy that can be employed. For when, by the application of very drying aſtringent remedies, a cicatrix happens in ſuch circumſtances to be induced, it proves conſtantly a temporary cure only; for the diſeaſe, in the courſe of a ſhort time, always breaks out again.

In ſuch caſes as we are deſcribing, when the external ulceration is not attended with a great deſtruction of parts, ſo that the bone ſtill remains with a tolerably thick covering, a caries is not always eaſily diſcovered; ſo that practitioners are frequently, for ſome time, at a loſs how to proceed in the cure: With a little attention, however, and eſpecially with the aſſiſtance of experience in former ſimilar circumſtances, a carious bone may, in general, be eaſily enough detected.

When by the introduction of a probe at any opening that may have been formed, if a roughneſs is diſcovered on the ſurface

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of the bone, the caſe becomes altogether evident.

Such information, however, is not always to be obtained: for frequently there is no evident opening in the ſurface of the ſore; and, if there are any, they are often ſo ſmall that no inſtrument proper for the purpoſe can get admiſſion. And on other occaſions, again, when an opening even tolerably large is met with, and when a caries does certainly exiſt, yet the diſeaſed part cannot be reached with the probe on account of the obliquity or winding direction of the ſinus which leads to it.

Although in ſuch caſes, however, the bone itſelf cannot be immediately reached; yet if ſufficient attention be given to the appearance of the ſore and to the nature of the diſcharge, we will not often be at any great loſs.

If a caries of the bone does take place, any new parts which may have appeared in the ſore, are commonly, as we formerly remarked, ſoft and flabby; and, inſtead of forming a regular ſurface, the new granulations

lations ſprout up in different cluſters, of the ſize of ſmall nuts or the like; and, inſtead of a healthy red appearance, they have uſually a dark-brown complexion.

Theſe circumſtances, when they take place, together with the diſcharge from the ulcer being thin, dark, and of a greaſy appearance, and eſpecially the peculiar and very offenſive fetor which a caries always affords, point out the real ſtate of a bone in every caſe of this kind, with almoſt as much preciſion as if the bone itſelf were expoſed to view.

§ 2. *Of the Cauſes and Prognoſis of the Carious Ulcer.*

All ſuch accidents as can occaſion either denudation, loſs of ſubſtance, or eroſion of a bone, have commonly been enumerated by authors as the cauſes of caries. But it is a circumſtance well known to every practitioner, that the common teguments and perioſteum are very frequently de-

ſtroyed, without any carious affection enſuing: and that even a very conſiderable loſs of ſubſtance in a bone may, and frequently does, occur, without being followed by any ſuch appearance.

The cauſes, therefore, of caries may, in general, be ſaid to be, whatever can, by eroſion or otherwiſe, deſtroy the circulation in the whole or in any part of a bone.

As ſuch, may be mentioned, wounds in general, which affect either the perioſteum or bones; violent contuſions, and inflammation of the perioſteum, from whatever cauſe it may proceed, when it ends either in abſceſs or gangrene; the acrid matter of ulcers penetrating to and deſtroying the perioſteum; and, laſtly, the improper application of ſharp acrid ſpirits and powders to bones merely laid bare; a practice we find recommended very univerſally by almoſt all the ancient writers on this part of ſurgery.

We have obſerved above, that loſs of ſubſtance in a bone does not always produce caries.

caries. Thus, very conſiderable portions of the cranium, it is well known, are frequently taken out when fractured, without any caries of the remaining part of the bone enſuing; and that the ſame circumſtance likewiſe happens, in many inſtances, in other parts of the body, I have had various opportunities of being convinced of.

That ſuch occurrences, however, do not ſo frequently take place in other bones as in thoſe of the cranium, cannot be denied: and the reaſon of it very probably is, that by a greater proportion of blood-veſſels being ſent to the bones of the ſkull than to any of the long ones; any accident which might otherwiſe be ſufficient for ſeparating one part of a bone from another, will, by this mechaniſm, be prevented from effecting a ſtoppage of circulation in the contiguous remaining parts with ſo much eaſe as in the hard bones of the extremities, in which the blood-veſſels are much more ſparingly diſtributed: And to ſuch a ſtoppage we have already endeavoured to ſhow that every caſe of caries is to be attributed,

In every inſtance of caries, the prognoſis to be formed muſt depend upon a variety of circumſtances: The principal of which are,

The ſituation of the diſeaſed parts; the nature and organiſation of the affected bone; the nature and degree of the inflicting cauſe; the ſize of the caries; the age and habit of the patient.

Thus it will be readily allowed, that a caries in any of the bones of the ſkull, ribs, or vertebræ, by theſe parts being ſituated above or upon organs ſo immediately neceſſary for life, muſt be attended with more riſk, than a diſeaſe, in every other reſpect of a ſimilar nature, in any of the bones of the extremities.

For a ſimilar reaſon, too, a caries ſeated near to any of the joints, from the danger of theſe becoming affected, is always attended with more riſk than when the diſeaſe is confined to the middle of a bone.

The conſiſtence or texture of a bone, too, has no ſmall influence in every caſe of caries;

ries; exfoliations being much more tedious, in the hard and compact, than in the more ſoft vaſcular bones. Thus, although, as we have already remarked, diſorders of this kind are attended with more riſk on the ſkull than elſewhere; yet a caries of any of the bones of the cranium, if it admits of a cure at all, never proves near ſo tedious as when the hard ſubſtance of the humerus, femur, or tibia, is affected.

The nature of the cauſe which produced the diſorder, has likewiſe a conſiderable effect in determining the prognoſis. Thus a wound with a ſharp cutting inſtrument, that may have deſtroyed not only ſome of the perioſteum, but even part of the bone itſelf, does not generally produce either ſuch a deep or extenſive caries, as what commonly ſucceeds to violent contuſions of bones, with perhaps no immediate loſs of ſubſtance.

The extent of the diſeaſed part, too, we have already obſerved, is a circumſtance which influences the cure conſiderably. This is, no doubt, the caſe in every ſpecies

of ulcer, but it is more particularly ſo in all caſes of caries; for it is conſtantly found, that much more time, in proportion, is requiſite for the ſeparation of a large piece of ſpoiled bone, than what in general proves ſufficient for the removal of one of a leſs extent.

And, laſtly, as in every ſpecies of ſore, the patient's being young or old, healthy or otherwiſe, are circumſtances which occaſion very conſiderable differences in the progreſs of the cure. This, we may remark, is the caſe in every variety of ulcer; but it is particularly ſo in thoſe attended with carious bones, which always render the cure of ſores ſo extremely tedious, that few conſtitutions are able to ſupport the diſcharge which they produce, if they have not previouſly been perfectly firm and healthy.

Theſe are the leading circumſtances requiring our attention, in the treatment of ulcers attended with carious bones; and it is from a due attention to all of them that a juſt prognoſis is to be formed.

§ 3.

§ 3. *Of the Cure of the Carious Ulcer.*

CARIES being a diſeaſe of the ſame nature in the bones, as mortification is in the ſoft parts, no cure, it is evident, can with propriety be attempted, till the removal of all the diſeaſed parts is accompliſhed.

For if, either by accident or deſign, an union of the parts above ſuch a caries ſhould be obtained, the dead portion of the bone not having any connection with the living or ſound parts, and by thus acting as an extraneous irritating body, would ſoon produce an abſceſs or collection of matter, and in this manner would force open the parts already united.

In a healthy conſtitution, the ſeparation of diſeaſed mortified parts from ſuch as remain ſound, is, in general, accompliſhed by a natural exertion of the ſyſtem.

The courſe which nature follows in effecting this, ſeems, as we formerly remarked when treating of gangrene, to be thro' the intervention of a ſlight degree of in-

flammation excited upon the extremities of the remaining ſound parts, which forms, as it were, a boundary between theſe and ſuch as are diſeaſed.

In conſequence of ſuch an inflammation, a ſerous exſudation from the mouths of the ſound veſſels is produced; a ſuppuration is accordingly brought about, with a conſequent production of new granulations, which, together, ſoon effectually detach all the diſeaſed from the living parts.

This is evidently the proceſs, in ſuch caſes of mortification as occur in the ſofter parts of the body; and, with a very little attention, the ſame phenomena will be obſerved in every caſe of caries. Only in the latter, from there being in the bones, as we have formerly remarked, a more ſparing diſtribution of blood veſſels, and conſequently not ſuch a diſpoſition to inflammation, the exertions of nature, for the removal of the diſeaſe, are ſeldom ſo quickly accompliſhed.

It is from a due attention to this proceſs of nature, in freeing herſelf from ſuch diſ-

orders,

orders, that the greateſt advantages in the treatment of caries are to be obtained: And if we be directed by this in the choice and order of our applications, we may have it frequently in our power to accompliſh in a few weeks, what nature, if left to herſelf, would require many more months to effect.

From the foregoing conſiderations, the principal indication, it is evident, in every caſe of caries, ſhould be, by proper applications frequently reiterated, to excite, and continue as long as may be neceſſary, ſuch a degree of inflammation in the adjoining ſound parts of the bone, as may be requiſite for the total ſeparation of the mortified parts.

In this ſtate of the diſorder, the diſeaſed part of the bone we ſuppoſe to be laid quite bare; which in the caſe of caries, as we firſt deſcribed, is the caſe from the beginning; and which muſt, in the other, be brought about, by deſtroying the corrupted and other parts that cover it, as

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ſoon as the caries from the different ſymptoms is known to exiſt.

So far at leaſt it muſt be laid open, as is neceſſary for getting freely at the diſeaſe of the bone in its full extent. This, by a mere inciſion along the courſe of the caries, may in general be done; but when the diſeaſe occupies any conſiderable extent of ſurface, it becomes neceſſary to make a crucial inciſion, or even to take away part of the tegumenſts altogether. And till the diſeaſe of the bone is entirely removed, it is neceſſary, by a due attention from time to time, to prevent the formation of new parts, at leaſt ſo far as might in any degree obſtruct the ſeparation of the caries.

Whether authors have ever had in view ſuch an indication as the one we have mentioned, for the cure of caries, I know not: but the remedies employed, in ſuch caſes, have, in general, been very different from thoſe which reaſon evidently points out, and from thoſe means which have been uſed with much ſucceſs by many modern practitioners.

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The directions given by all the older writers on this ſubject, and which are ſtill attended to by ſome of the moderns, are, in every caſe of caries, or even only of a denuded bone, to apply immediately, to the bone itſelf, powders and tinctures of aloes, euphorbium, myrrh, and other warm gums. This, it is probable, they were originally led into, with a view to correct the great degree of fetor and putrefaction that, in caſes of carious bones, always takes place: and from cuſtom only the practice has been continued, without any other ſatisfactory reaſon; for the only effects which theſe applications can ever produce, farther than that of correcting the ſmell, is to irritate and inflame the ſoft parts of the ſore, without having the leaſt influence on the more material diſeaſe of the bone.

For, when the caries is of any conſiderable depth, ſuch ſubſtances can never penetrate to or affect the ſound parts of the bone, where alone, by the irritation they would

would occaſion, ſome benefit might be expected from them.

And again, when no caries or affection of this nature has appeared, ſuch applications to bones merely denuded of their perioſteum, can never, in any reſpect, be neceſſary; and may, on the contrary, be frequently a means of inducing a real caries, the very diſorder they were intended to prevent.

Another remedy which we find frequently recommended by almoſt every author, in the more advanced ſtages of caries eſpecially, is the actual cautery. This, however, independently of the many objections made to it by patients, from the pain and ſeeming cruelty attending it, is evidently, from its nature, a very injudicious application in all ſuch diſorders: and although many have no doubt recovered when the cautery has been made uſe of, there can be little doubt, but that the ſame complaints would have been more quickly removed, although no ſuch remedy had been employed; for, in whatever way we

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ſuppoſe it to be applied, its effects muſt evidently be pernicious.

If the cautery be applied in ſuch a manner as entirely to deſtroy the diſeaſed parts of the bone, as is commonly recommended, the ſound parts underneath, from the degree of heat neceſſary for that purpoſe, muſt undoubtedly always ſuffer ſo much, as to be ſoon rendered equally carious with thoſe intended to be removed.

And, on the contrary, when it is uſed in a more ſparing manner, the diſeaſed part of the bone will not be removed, whilſt at the ſame time there will be a conſiderable riſk incurred of retarding the natural exertion of the ſyſtem for the removal of the diſeaſe: for even a very moderate heat will effect the deſtruction of ſuch granulations as nature may for this purpoſe have already formed; and the juſt degree of heat, it may be remarked, neceſſary for deſtroying the morbid, without affecting the ſound parts, it is ſcarcely poſſible to determine.

When, for any particular reaſon, the actual

actual cautery may not be judged proper, it has been recommended, by the ſame authors, to make uſe of different artificial cauſtic preparations; and by others, it is adviſed, as the ſhorteſt proceſs, to ſtrike off at once all the diſeaſed parts with a chiſel and mallet.

But the objections to the uſe of the cautery, which we have already ſtated, hold equally ſtrong with reſpect to theſe: ſo that, in every caſe of caries, every application of ſuch a precarious nature ſhould be entirely laid aſide; eſpecially as we have it in our power to accompliſh the ſame indication in a much more ſafe and certain manner.

For the purpoſe of exciting a neceſſary degree of inflammation, the moſt effectual and ſafeſt method, and which, in ſlight caſes of caries, proves always ſufficient, is to make a number of ſmall perforations all over the ſurface of the diſeaſed bone, to ſuch a depth as to give the patient a very little pain, and no farther.

This operation being, in different parts, renewed

renewed every third or fourth day, the diſeaſed portion of the bone, in the courſe of a ſhort time, not only loſes the coheſion of its own parts, but a gentle inflammation being, by the ſame means, raiſed and kept up till a free ſuppuration is produced, the whole mortified maſs is generally, in a ſhort time thereafter, entirely thrown off.

Theſe perforations are very conveniently and effectually made by a pin or perforator, ſuch as is uſed for fixing the head of the trepan; which being fixed in the handle of that inſtrument, not the one in common uſe, but that which reſembles the tool made uſe of by coopers for perforating caſks, it is thereby wrought with a great deal of eaſe and expedition.

Although the operation, as now deſcribed, in general anſwers very effectually in ſlight caſes of caries, which are not of great extent, and which do not penetrate deeper than the firſt or ſecond lamella of a bone; yet when the diſeaſe is very extenſive, and eſpecially when it goes deep into the ſubſtance of a bone, it ſhortens the

proceſs

proceſs conſiderably, if, inſtead of the perforator, a very ſmall head of a trepan be employed.

This inſtrument being applied at proper diſtances over the ſurface of the caries, and being carried juſt as deep as to give the patient a very little pain, as we formerly directed, the production of that degree of inflammation which we have ſhown to be ſo neceſſary in all ſuch caſes is thus very conſiderably promoted. And at the ſame time, by converting, as it were, a very large caries into ſo many ſmaller diſeaſed parts, their ſeparation from the ſound bone below comes to be much more eaſily affected, than if the whole ſurface had ſtill remained in one continued piece.

As ſoon as any of the parts looſen at the edges, their final ſeparation may be always greatly haſtened, by daily inſinuating below them the end of a common ſpatula or levator, ſo as to preſs their edges a very little upwards.

The head of a common trepan is frequently made uſe of for taking out a piece entirely

entirely when bones happen to be carious through the whole ſubſtance of their different lamellæ; but, in the ſtate of the diſeaſe, of which we are now ſpeaking, the caries is not ſuppoſed to have advanced ſo far, and conſequently ſuch a practice cannot with propriety be recommended.

After the uſe of either of the abovementioned inſtruments, the ulcer is to be dreſſed in the uſual manner. Only, as long as any of the carious bone remains, the putreſcency and fetor of the matter are commonly ſo conſiderable, that it becomes neceſſary to employ ſome remedies merely with a view to correct it. For which purpoſe, a ſtrong decoction of Jeſuit's bark and walnut-tree leaves is frequently uſed with advantage: and a ſolution of camphor in weak brandy is alſo an application by which this fetor of morbid bones is very effectually corrected. The carious part of the bone ſhould be daily dreſſed with pieces of ſoft lint ſoaked in either of theſe, whilſt the reſt of the ſore is treated

in the manner we have directed for caſes of ſimple purulent ulcers.

This putreſcent ſtate of the diſcharge afforded by carious ulcers is likewiſe much corrected by the application of lime-water: If the ſores be daily moiſtened with ſoft cloths dipt in it, the matter ſeldom becomes very offenſive; and as this remedy ſeems to have ſome influence in deſtroying the coheſion of oſſeous matter, it ought never to be omitted in any caſe of this kind. Since I firſt employed lime-water in ulcers attended with carious bones, I have met with different inſtances of exfoliations being much promoted by it.

As ſoon as the carious parts are all entirely removed, the whole being then in the ſtate of a ſimple purulent ſore, it ought to be treated accordingly: For, although we are particularly directed by authors in general, never, in any caſe of caries, or of denuded bone, to make uſe of ointments, or of any kind of greaſy application; yet, as there was never any juſt reaſon given for ſuch a prohibition, I long ago made trial

of

of applications of this kind in caſes of caries; and, no inconvenience ariſing from the practice, I have ſince that time been in the daily cuſtom of applying them juſt as freely to bones as to other parts.

Of the great variety of books I have had occaſion to conſult upon this ſubject, none have afforded me more ſatisfaction than a treatiſe on carious bones, by the late celebrated Dr Monro; and I am happy to find, that the practice we have ventured to recommend is ſupported by the authority of ſuch an eminent practitioner; who, after ſpeaking of the application of unctuous medicines to bones, not only admits of it as ſafe, but recommends the practice as exceedingly uſeful; and ſays, "I can now, "after a great many trials, aſſure you, that "no medicines ſo effectually *prevent the* "*corruption* of bones laid bare, and *aſſiſt* "to cover them ſo ſoon with fleſh, as "ointments *."

* In the ſame ingenious Diſſertation may be ſeen a particular account of the ſeveral ſpecies of caries; with a liſt of authors in different ages, from Hippocrates down-

We have hitherto been ſuppoſing, as was already obſerved, that the diſeaſe does not penetrate far into the ſubſtance of a bone: but when this is found to be the caſe, and a conſiderable portion, perhaps, of its whole circumference is affected; or when the diſeaſe extends even round the whole bone, which in many inſtances is the caſe; the ſhorteſt proceſs then is, to take out at once all the diſeaſed parts, either with the head of a trepan frequently applied, or by means of a ſmall ſpring-ſaw.

Many inventions have been propoſed for cutting out portions of carious bones which lie deep: With a view to protect the contiguous parts from being injured by the ſaw, it has been adviſed to cover them with thin plates of ſteel; and ſaws of various forms have been ſuppoſed to be neceſſary for dividing the bone.

Almoſt every part of ſurgery is already too much loaded with machinery; but no

downwards, who have wrote upon it, with the ſeveral methods of cure propoſed by each of them. Vid. Monro's Works, 4to. Edin. 1781, p. 283, &c.

no operation with which we are acquainted, ſeems to require leſs aid from new inſtruments than the removal of a portion of a carious bone. In whatever part of the body the diſeaſe is ſeated, the teguments and muſcles which cover the caries ſhould be freely divided: and, when the bones of any of the extremities are affected, if this be done to a proper extent, ſo as to admit of a piece of firm leather being inſerted below the bone, for the purpoſe of protecting the ſoft parts on the oppoſite ſide of the limb, a common ſtraight ſaw will anſwer, in almoſt every caſe, better than any other inſtrument. But when the bone lies very deep, a ſmall ſpring-ſaw of a circular form may be employed for dividing ſuch parts of it as cannot be eaſily reached by the common ſaw.

Thus either by the uſe of the trepan, or by a ſaw, any portion of a diſeaſed bone may be removed; a practice which may frequently be employed to much advantage in the ſkull, in the bones of the hands and feet, as alſo in thoſe of the legs and

arms, when the caries does not run into the necks and heads of the bones, ſo as to affect the joints: In which event, if an anchyloſis does not enſue, or if nature does not by ſome means or other effect a cure, amputation of the limb muſt almoſt always be had recourſe to at laſt; a caries of the extremities of large bones being one of the many complaints for which art has not as yet diſcovered a remedy.

But, whenever a caries is confined to the middle of any of the bones of the extremities, excepting, perhaps, in the thigh, where the thickneſs of parts is very conſiderable, amputation of the member ſhould never be adviſed for it: for, with a little patience and attention, if the patient's health is not much injured, nature may, in general, be ſo far aſſiſted by removing the diſeaſed parts, that a complete cure may at laſt be moſt frequently obtained. And in no caſe whatever ought we to deſpair, when the carious part can, with ſafety, be removed: For, however extenſive the diſeaſe may be, if we can properly

accompliſh

accompliſh its removal, nature will ſeldom fail on her part, in filling up the vacancy; there being many inſtances to be met with, in different chirurgical publications, of even whole bones being regenerated.

We have obſerved above, that in carious affections of the larger joints, amputation of the diſeaſed limb is almoſt the only remedy to be depended on. It has, however, been propoſed, and has even been attempted, to ſave limbs affected in this manner, by cutting out the ends of the carious bones. Mr Park, a very ingenious ſurgeon of Liverpool, has publiſhed a treatiſe upon this ſubject, in which he gives the hiſtory of a diſeaſed knee-joint where this operation ſucceeded. Although much merit, however, is due to whoever makes any probable attempt for ſaving limbs which otherwiſe would be amputated, and although the public is much indebted to Mr Park for the trouble he has taken in promoting the ſucceſs of the operation we have now mentioned, yet, from various circumſtances, there is much reaſon to

think, that it will never be found to be of much general utility: Independent of other objections which occur to it, the riſk which attends it is evidently much greater than what commonly reſults from the amputation of limbs: the extent of ſore induced by it is greater; the ſuppuration is of courſe more plentiful; and the matter is not ſo freely diſcharged. We do not here, however, think it neceſſary to enter more fully into the diſcuſſion of this point, as we ſhall have occaſion to treat more particularly of it in another work in which we are at preſent engaged.

During the treatment of a caries, it muſt be underſtood that the ſame attention is requiſite to the patient's habit of body, diet, and regimen in general, as we have recommended in other ſpecies of ulcers.

Thus, if he is of a full inflammatory conſtitution, all heating and very nouriſhing articles of diet ſhould be abſtained from; and if, on the contrary, the ſyſtem is low and emaciated, as from the long continuance of ſuch diſorders is moſt frequently

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the caſe, a nouriſhing generous regimen ſhould always be allowed. In ſuch caſes, too, as tonic remedies are much wanted, Jeſuit's bark is often found to be very ſerviceable, and it ſhould always be uſed in conſiderable quantities.

The bark is almoſt the only medicine which, in caſes of caries, ſhould ever be given internally: but in ſome inſtances the ſoft parts which cover a carious bone, become ſo ſwelled and painful, that opiates are found to be neceſſary. And as it appears, that in ſuch caſes the pain proceeds in a great meaſure from the diſtention of the perioſteum, in conſequence of the bone becoming enlarged, I have frequently been induced to try the effects of ſlight ſcarifications, or of bleeding with leeches directly on the pained parts; by which means relief is frequently obtained when it cannot be procured by any other means. I may here remark, too, that in every ſpecies of ulcer, attended with much pain, leeches applied either upon the edges of the ſores, or directly upon the affected parts, are often

often attended with the beſt effects, inſomuch that I am now in the daily habit of uſing them whenever a ſore becomes ſo inflamed and painful as to reſiſt the influence of poultices and the other means we have recommended.

In every ulcer of this kind, as ſoon as the diſeaſed part of the bone is extracted, the ſore which remains is to be treated in the manner we have already directed for the management of that ſpecies of ulcer, to which, at the time, it may appear to belong.

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SECTION VIII.

Observations on the Cancerous Ulcer.

§ 1. *Of the Symptoms and Diagnoſis of the Cancerous Ulcer.*

CANCERS have been generally divided into occult and open. By the former are meant ſuch hard ſcirrhous ſwellings as are attended with frequent ſhooting pains, and which at laſt generally terminate in the latter.

By the open cancerous ulcer, we underſtand that ſpecies of ſore, which commonly ſucceeds to hard ſwellings of the glands; although, in ſome inſtances, it occurs without any previous hardneſs. The edges

edges of the ulcer are hard, ragged, and unequal, very painful, and reverſed in different ways, being ſometimes turned upwards and backwards, and on other occaſions inwards. The whole ſurface of the ſore is commonly very unequal: in ſome parts there are conſiderable riſings, whilſt in others there are deep excavations. The diſcharge for the moſt part is a thin, dark-coloured, fetid ichor; and is often poſſeſſed of ſuch a degree of acrimony as to excoriate, and even to deſtroy, the neighbouring parts. In the more advanced ſtages of the diſeaſe, too, by the eroſion of blood-veſſels which occurs, conſiderable quantities of pure blood are ſometimes diſcharged.

Patients labouring under real cancerous affections, univerſally complain of what they term a burning heat over the whole ulcerated ſurface; which, in general, it may be remarked, is the moſt tormenting ſymptom that attends the diſorder; and thoſe ſhooting lancinating pains, which were very diſtreſſing even in the more occult

cult ſtate of the complaint, become now a great deal more ſo.

Theſe are the moſt frequent ſymptoms which attend an ulcerated cancer; but the appearances of ſuch ſores are ſo various, that it is almoſt impoſſible in any deſcription to comprehend every one. When two, three, or more, however, of thoſe we have enumerated, concur together in the ſame ulcer, we may always be pretty certain of its being of the cancerous kind.

The ſituation too of ſuch ſores, affords ſome aſſiſtance in the diagnoſis: for tho' cancers do no doubt occur in every part of the body, yet by far the greateſt proportion happen, either evidently in the ſubſtance of one or more glands, or in thoſe ſituations where glands are known to be moſt numerous. Thus ſix times the number of cancerous affections, we imagine, occur in the lips and in the breaſts of women, than in all the reſt of the body beſides.

§ 2.

§ 2. *Of the Cauſes of Cancerous Diſorders.*

VARIOUS circumſtances have been mentioned by authors as tending to produce cancer, and an equal number of remedies have been recommended for the cure of it: But the little ſucceſs which ſtill attends our treatment of the diſeaſe, ſhows evidently, that the ideas which have been adopted, and the remedies propoſed, have been more founded on theory alone than on practice and obſervation; for there is no diſeaſe to which the human frame is liable, that has baffled the power of art more than that which we are now conſidering.

Although a thorough acquaintance with the theory of the diſorder might probably throw ſome light upon the method of cure; yet as any thing that has hitherto been offered, or perhaps as yet diſcovered upon this ſubject, ſeems to be merely ſpeculative, and not ſupported by experience, any account we could give of it here, would not prove either entertaining or inſtructive. Before going farther, however, it would ſeem

ſeem to be of conſequence, to examine with accuracy the different opinions of practitioners, with reſpect to cancers being a general diſorder of the ſyſtem, or merely a local affection.

This is a point, we may remark, of much importance in practice: for if it were once eſtabliſhed, that cancers are originally local affections only, no objection could then be made to their cure by extirpation, as at preſent there is by many, who contend, that cancers, in every inſtance, proceed originally from ſome diſorder in the general ſyſtem; and conſequently, that their removal can never have any other effect than to make the diſeaſe again break out in the ſame or in ſome other part of the body. And this they are much confirmed in, from attending to the little ſucceſs which is commonly derived from the extirpation of cancers; the diſorder, as is alledged, generally returning, in by far the greateſt proportion of all that are cut.

If this argument were founded in fact, it would no doubt merit ſome attention; though

though even in this caſe it ought not to be conſidered as concluſive againſt the operation, as will hereafter more evidently appear. It will ſoon, however, be demonſtrated, and to many indeed is already known, that a much greater proportion than what we have mentioned, recover and do well after the extirpation of cancers; and it is probably the fault of ſurgeons, or of patients, only, who generally delay the operation too long, that the number of thoſe who recover is not much larger than hitherto it has ever been.

It is of the more importance to have the point in queſtion determined, as the only account of the ſucceſs from extirpation, which, till lately, has appeared in this country, gives ſo bad a proſpect of recovery, that I make no doubt of its having been the means of deterring many patients from undergoing a timely operation; which for cancerous complaints, is the only remedy to be depended on with which we are as yet acquainted.

It is very probable, too, that the ſame publica-

publication, as coming from great authority, has had no inconſiderable influence even with practitioners, in making them much more backward in undertaking the extirpation of cancers, than they otherwiſe probably would have been.

The publication alluded to, is that of the late juſtly eſteemed Dr ALEX. MONRO, in Vol. V. of Edinburgh Medical Eſſays; where the Doctor ſays, "Of near "ſixty cancers which I have been preſent "at the extirpation of, only four patients "remained free of the diſeaſe at the end "of two years: three of theſe lucky peo-"ple had occult cancers in the breaſt, and "the fourth had an ulcerated cancer on "the lip."

The Doctor likewiſe obſerves, that of the few he had an opportunity of ſeeing the diſeaſe relapſe in, it was always more violent, and made a quicker progreſs, than it commonly did in others on whom no operation had been performed. He therefore propoſes by way of queſtion, "Whe-"ther ought cancerous tumors to be ex-

" tirpated, or ought the palliative method " only to be followed when they cannot be " reſolved?" and upon the whole, he concludes againſt their extirpation, except in ſuch as are of the occult kind, in young healthy people, and that have been occaſioned by bruiſes or ſome other external cauſes. In all other caſes, the doctor obſerves, it ſhould be the patient's earneſt intreaty only, after the danger of a relapſe has been explained, that ſhould make a ſurgeon undertake the operation.

That Dr Monro, from obſerving the diſeaſe to return ſo very frequently, ſhould be of this opinion, is not in the leaſt ſurpriſing: and if no better ſucceſs ſhould, in general, be found to attend the extirpation of cancers, it would no doubt be an objection to the practice; and this eſpecially, if all the caſes which relapſe ſhould be found to be attended with more inveterate and more painful ſymptoms, than they either were previous to the operation, or than they probably ever would have been if the tumors had not been extirpated.

But

But the experience of many practitioners ſince Dr Monro's publication, has been attended with much greater ſucceſs; and one late publication upon the ſubject, of which we ſhall afterwards take notice, puts it beyond a doubt, that a much greater proportion have recovered from cancers by means of extirpation, than of thoſe which were treated in the ſame manner in the courſe of his experience. It will not therefore appear to be improper, to attempt to diſcover the reaſon of the Profeſſor's great want of ſucceſs in ſuch caſes, in compariſon with what others have met with: and this, it is preſumed, will not be difficult to do.

It may, I think, be conſidered as certain, that the ſooner cancerous caſes are operated upon after their appearance, the greater is the chance of the extirpation's proving effectual, and vice verſa. Now, it is exceedingly probable, that the high rank which Dr Monro bore in his profeſſion, both as an anatomiſt and ſurgeon, would be the means of his being applied to for

more bad and old caſes of cancer, as well as of other complaints, than perhaps any other practitioner of his time. Patients in the country, with ſlight caſes of cancer, have them generally taken off by their own ſurgeons: but whenever they become of a more inveterate nature, by long ſtanding or otherwiſe, patients always reſort to a town; to the capital, when they can conveniently do ſo; and there the moſt eminent in his profeſſion is naturally applied to. This being the caſe, it is not ſurpriſing that very little ſucceſs attended many of the operations performed in ſuch cancerous caſes as occurred to Dr Monro. From the cauſe we have mentioned, a great proportion of theſe would be of the worſt kind; ſo that we need not wonder either at the bad ſucceſs of any operations which were adviſed, or at the opinion which the Doctor afterwards adopted on the ſubject.

Such unfavourable caſes as thoſe we have repreſented, it is probable, for the reaſons alledged, would moſt frequently occur

occur in Dr Monro's private practice; and in his attendance on the infirmary, he would, in general, meet with very ſimilar ones. For, in every hoſpital, it is commonly the worſt caſes chiefly that are to be met with; as, before application is made there, private ſurgeons are always conſulted, who, when an operation is to take place, if the caſe does not appear to be deſperate, and if any reputation is likely to be got from it, generally retain the patient under their own management. And, on the contrary, when the diſeaſe is evidently of an inveterate nature, and when an operation therefore would probably be attended with much riſk, the patient is always recommended to a public hoſpital. So that no fair judgment, from the reſult of ſuch experience, in cancerous caſes eſpecially, can ever be formed, unleſs at the ſame time theſe different circumſtances be properly attended to, and due allowance be made for them.

This, in my opinion, is the only way in which the great want of ſucceſs which at-

tended the extirpation of cancers in the courſe of Dr Monro's experience, can be properly accounted for; and it explains it, I think, in a very ſatisfactory manner: ſo that all the concluſion which can be drawn from this part of the above-mentioned paper is, that there is very little chance of ſucceſs from extirpation in the more advanced ſtates of cancer; a circumſtance which ought, therefore, to make us have recourſe to that operation in the earlieſt ſtages of the diſeaſe, when in general there would not, probably, be much chance of its frequently failing.

Such expectations will probably, by many, be conſidered as by much too ſanguine; and they no doubt would be ſo, if the ſucceſs which in general attends the operation, was all that could be attained: but its proving, for the moſt part, ſo unſucceſsful, ſhould by no means be imputed either to the nature of the diſeaſe, or to the fault of the remedy; but entirely to its being, in by much the greateſt number of caſes, delayed too long, till the ſyſtem

ſtem has become ſo much infected, that we ſhould rather wonder at the operation's ſucceeding ſo frequently, as it is, even in the general courſe of practice, found to do.

In confirmation of the opinion we have endeavoured to ſupport, it is not thought improper here to introduce a very ſhort abſtract from a late publication on cancers formerly alluded to, by the late Mr James Hill, an eminent ſurgeon in Dumfries, who, in the courſe of a very extenſive practice, had more experience in cancerous caſes than often falls to the ſhare of one man: So that to ſuch as have not yet peruſed Mr Hill's book, it will not probably appear to be ſuperfluous that we ſhould inſert here a ſhort extract from his obſervations on theſe complaints.

In the year 1772, the date of this publication, Mr Hill had extirpated from different parts of the body, eighty-eight genuine cancers, which were all ulcerated except four; and all the patients, except two, recovered of the operation.

Of the firſt forty-five caſes, only one proved unſucceſsful; in three more, the cancer broke out again in different parts; and in a fifth, there were threatenings of ſome tumors at a diſtance from the original diſeaſe. Theſe tumors, however, did not appear till three years after the operation, and the woman was carried off by a fever before they had made any progreſs. All the reſt of the forty-five continued well as long as they lived; or are ſo, ſays Mr Hill, at this day. One of them ſurvived the operation above thirty years; and fifteen were then alive, although the laſt of them was cured in March 1761.

Of the next thirty-three, one lived only four months; and in five more the cancer broke out afreſh, after having been once healed. The reaſon why, out of forty-five caſes, only four or five proved unſucceſsful, and ſix out of thirty-three, was as follows.

"The extraordinary ſucceſs I met with," continues our author, "made cancerous patients reſort to me from all corners of the

the country, ſeveral of whom, after delaying till there was little probability of a cure by extirpation or any other means, forced me to perform the operation contrary both to my judgment and inclination."

Upon a ſurvey in April 1764, made with a view to publication, the numbers ſtood thus: Total cured of different ages from eighty downwards, ſixty-three; of whom there were then living in all thirty-nine. In twenty-eight of that number the operation had been performed more than two years before, and in eleven it had been done in the courſe of the two laſt years.

So that, upon the whole, after a courſe of thirty years practice, thirty-nine of ſixty-three patients were alive and ſound; which gives Mr Hill occaſion to obſerve, that the different patients lived as long after the extirpation of the cancers, as, according to the bills of mortality, they would have done, had they never had any cancers, or undergone any operation.

The remaining twenty-five, which completes

pletes the eighty-eight, were cured ſince the year 1764. Twenty-two of theſe had been cured, at leaſt, two years; and ſome of them, it may be remarked, were ſeventy years, and one ninety years old.

In the year 1770, the ſum of the whole ſtood thus. Of eighty-eight cancers, extirpated at leaſt two years before; not cured, two; broke out afreſh, nine; threatened with a relapſe, one; in all twelve, which is leſs than a ſeventh part of the whole number. At that time there were about forty patients alive and ſound, whoſe cancers had been extirpated above two years before.

I have been the more particular in giving this account of Mr Hill's ſucceſs in cancerous caſes, as it is the lateſt, and perhaps the moſt conſiderable, even in point of number, that the public was ever favoured with: and I am the more readily induced to it, from having been preſent at a conſiderable number of the operations; and from knowing that no fallacy or miſtake could occur in the relation, Mr Hill having

having been ſo exact, as to keep a regiſter of every caſe of much importance that came under his management.

From theſe and many other authenticated facts, which if neceſſary might be adduced, of the ſucceſs attending the extirpation of cancers, there is, it is preſumed, very great reaſon for conſidering this diſeaſe, in general, as a local complaint, not originally connected with any diſorder of the ſyſtem; and that a general cancerous taint ſeldom, or perhaps never, occurs, but in conſequence of the cancerous virus being abſorbed into the conſtitution from ſome local affection. This, in every caſe of real cancer, or rather in ſuch ſcirrhoſities as from their nature are known generally to terminate in cancer, ſhould certainly determine us to have recourſe to extirpation as early as poſſible; and if this was done ſoon after the appearance of ſuch affections, or before the formation of matter takes place, their return, as was already obſerved, would probably be a very rare occurrence.

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The particular nature of the cancerous virus, I do not pretend to know; nor will it perhaps be ever diſcovered: but it is not unreaſonable to ſuppoſe, that external accidents merely may produce ſuch an effect upon particular parts, as to induce the formation of a matter, even as acrid as that of cancers appears to be.

Thus we have daily inſtances in which vitiated ſores produce very acrid and even corroſive matters, which, from what we have already remarked in ſome of the preceding ſections, could not probably have exiſted previouſly in the blood: And, if that is the caſe, why may not ſome peculiar affection of a part contribute to the formation of a cancerous matter? The one may be conceived, *à priori*, juſt as probably to occur as the other; and it does, we apprehend, as certainly happen.

The ordinary ſituation of cancers, too, may in ſome meaſure account for the diſcharge afforded by them being even of a more acrid and virulent nature, than that of any other kind of ulcers. For as they are in general

general ſeated in the glands, which are known, even in much more ſimple affections, never to produce good matter, it is not at all improbable, but, by ſome peculiar irritation applied to a gland, ſuch a diſpoſition in it may be induced, as to cauſe the formation of the worſt and moſt inveterate of all matters, namely, the cancerous: Which being allowed to remain, and abſorption to take place, the whole ſyſtem comes, in courſe of time, to be as it were ſaturated with it; and, thus a general affection, or what may be termed the Cancerous Diatheſis, is at length produced, from what at firſt was only a local ulcer.

We have thus endeavoured to ſhow, that, by an external accident merely, cancer may be produced, without having recourſe to the ſuppoſition of any internal affection. But, ſay thoſe who aſſert that the latter in ſuch caſes always takes place, "Although external violence does ſometimes ſeemingly end in cancer; yet that diſorder would never be produced in this manner, unleſs a prediſpoſition to ſuch com-

complaints ſubſiſted in the habit at the ſame time; and beſides, although cancers do, from that circumſtance, on ſome occaſions, ſucceed to external accidents, yet by far the greateſt number of cancerous diſorders occur without the intervention of any ſeeming violence whatever."

That this is the caſe, will not by any practitioner be denied: but it may, however, be explained upon very different principles from what it commonly has been; and in a manner, too, that will rather tend to confirm the opinion of cancers proceeding, in general, from a local affection.

In by much the greateſt number of cancerous caſes, as we have already obſerved, the glands appear evidently to be the ſeat of the diſeaſe: which renders it probable, that, in all, they are the parts originally affected; and that the neighbouring ſoft parts come only to ſuffer in conſequence of their vicinity to theſe: or perhaps, in ſome few caſes, cancerous ulcers may break out in parts not glandular, from

from the whole ſyſtem being much infected by the abſorption of diſeaſed matter from the long continuance of a cancerous gland in any one part.

This being the caſe, we may very eaſily conceive how ſingle glands may frequently become affected, without any evident external cauſe intervening: for the circulation in the glands, being carried on by a ſet of veſſels much more minute than thoſe with which other parts of the body are ſupplied, obſtructions will much more readily and eaſily occur in them than in other parts; and a gland being once obſtructed, the ſtimulus and irritation thereby occaſioned, may, it is probable, have nearly the ſame effects, and be attended with the ſame conſequences, as are commonly experienced from a blow or a bruiſe.

In this manner, too, may be accounted for, without having recourſe to any peculiar cancerous diſpoſition in the ſyſtem, all thoſe caſes of cancer that occur from the improper management of impoſthumes in the

the breaſts of nurſes and of lying-in women; as likewiſe thoſe which ſo frequently happen to women about that period at which the menſes leave them; and alſo ſuch as ſometimes ſucceed to fevers and other diſorders, and of which they ſeem, as it were, to be the terminations.

In every affection originating from any of theſe cauſes, there is always a determination of blood, or of ſome other fluid, to the affected part: which, when it happens to be the cellular ſubſtance, an abſceſs is produced; when to the pleura, to the membranes of the eye, or any ſuch parts as from their firmneſs of texture do not favour the extravaſation of fluids, violent inflammations are the conſequence; and, when the ſubſtance of a gland happens to be the part a determination is made to, it being neither, as is found from experience, ſo proper as the cellular membrane for the formation of pus, nor from its ſoftneſs ſo ſuſceptible of inflammation as a membrane, an indolent hard ſwelling called Scirrhus, comes, merely by the obſtruc-

ſtruction and diſtention of its different veſſels, very naturally to be produced. And a tumor of this kind having once taken place, it generally remains for ſome time in its original indolent ſtate, till by increaſe of bulk, or perhaps from external violence, an irritation ſufficient to excite ſome conſiderable degree of inflammation is applied; which, from the nature of the affected part, not being able to produce ſuppuration, generally at laſt terminates in what we call Cancer, as in other ſoft parts of the body it would in gangrene, if not previouſly reſolved or brought to ſuppuration.

This objection, therefore, of cancers appearing more frequently without than with the intervention of any external accident, does not, when properly examined into, appear to be of any importance: and from the whole of what has been ſaid, this concluſion, I think, may be drawn, That cancers, in very few inſtances, perhaps in none, ever ariſe from a general affection of the ſyſtem; but, on the contrary, are, at

their firſt appearance, almoſt always local affections only.

Such a concluſion, were we better acquainted with the nature of the diſorder than as yet we are, would, it is probable, appear to be founded in fact. The reaſons for adopting it appear to be ſtronger than any that have been adduced in ſupport of the contrary opinion: And, at any rate, its being admitted can never prove ſo detrimental to mankind, as if the contrary opinion was univerſally to prevail; which, by having the effect of preventing patients with cancerous diſorders from having recourſe to extirpation, would, as long as it prevailed, be always the means of their neglecting the only remedy which, ſo far as we know, ought ever to be truſted.

With reſpect to that circumſtance, taken notice of in the paper lately quoted from Dr Monro, of cancerous diſorders being always more violent and making a quicker progreſs upon returning after extirpation, than in patients on whom no operation had been

been performed, this may in ſome inſtances be the caſe; but I know from experience, that it is not always ſo: and although it ſhould in reality be found to be ſo on many occaſions, yet ſtill it is no valid objection to the practice of extirpation; and would appear only to be an additional reaſon for having recourſe to the operation at an early period of the diſeaſe, in order to guard as much as poſſible againſt the poſſibility of a return.

§ 3. *Of the Treatment of Cancerous Diſorders.*

FROM all that has been hitherto ſaid, it is evident, that very little is to be expected in the treatment of cancerous diſorders from internal medicines: Nor are external applications, farther than with a view to palliate particular ſymptoms, ever to be depended on.

A great many remedies have at different times been recommended to the public as cures for cancer: but none, it is probable, was ever more depended on than cicuta; a remedy, however, which, in this coun-

try, has by no means anſwered the expectations that were formed of it.

Its want of efficacy, indeed, has now proved ſo univerſal, that there ſeems little occaſion here to ſay any thing with reſpect to it: I ſhall only juſt obſerve, therefore, that although, in a great number of inſtances, I have known it exhibited with all the attention to its preparation that could poſſibly be given; yet, in real cancers, I never knew it, nor indeed any other remedy, produce a cure.

In ſimple caſes of indurated glands, I have frequently, indeed, known the uſe of cicuta attended with very good effects; and in the advanced ſtages of cancer, when exciſion was determined againſt, I have, on different occaſions, ſeen it uſeful, both by relieving pain, and by procuring from the ſores a better and leſs acrid diſcharge than could otherwiſe be obtained. But whenever there is no valid objection to it, the extirpation of a cancer, as being the moſt certain remedy, is that which we ſhould

ſhould have recourſe to as ſoon almoſt as the diſeaſe is diſcovered.

With reſpect to the mode of operating in extirpating cancerous affections, very full information may be obtained from the ſeveral ſyſtematic writers on ſurgery: it may not be improper, however, in this place, to introduce a few general obſervations on the ſubject. And,

1. The removal of cancerous diſorders, even in the ſlighteſt and moſt trivial caſes, ſhould be always effected with the ſcalpel in preference to cauſtic; the uſe of which, though formerly much recommended by ſome authors, and ſtill by ſome practitioners adhered to, ought, for very obvious reaſons, to be entirely laid aſide.

The irritation generally occaſioned by every application of the cauſtic kind, together with the pain and inflammation which commonly enſue, are, in cancerous caſes eſpecially, very ſtrong objections againſt their ever being uſed. Plunket's remedy, which is evidently of a cauſtic nature, and which we have much reaſon to think

conſiſts chiefly of arſenic, has, no doubt, like every other medical ſecret, been greatly extolled; but it is not probable, if the different caſes it has been uſed in were all fairly examined into, that it would be found to have ever produced any advantages which might not more ſpeedily, and with more certainty, have been obtained from the ſcalpel.

2. In whatever part of the body the diſorder is ſituated, every part that has the leaſt appearance of diſeaſe ſhould be always taken off; and if, even in the courſe of the ſubſequent dreſſings, any cancerous portions may appear to have been left, theſe ſhould alſo be directly extirpated, otherwiſe the diſorder will juſt as certainly return as if no part of it had been removed; and, from want of proper attention to this circumſtance, the want of ſucceſs in this operation, I have no doubt, may, on many occaſions, have ariſen. Even every indurated gland which appears in the neighbourhood of a cancerous ſore, ſhould juſt as certainly be taken away as

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the ulcer itſelf; for if it be allowed to remain, there will ſeldom be much chance of ſucceſs from the operation.

When the complaint is ſeated in the breaſt, although perhaps part of the mamma only may be affected, the whole of it ſhould be always taken off: for leaving part of it is not only attended with no advantage, but proves afterwards, as I have often ſeen, very inconvenient to the patient.

Although it is always proper, however, to extirpate every part that is really diſeaſed, none of the external teguments ſhould be ever unneceſſarily deſtroyed, nor ſhould more of them be taken away than is altogether requiſite: for the ſmaller the cicatrix that remains after the part is cured, the leſs will be the conſequent irritation; and perhaps from this circumſtance, too, the chance of the diſeaſe returning may be in ſome meaſure leſſened.

At leaſt, in the Infirmary of this place, much greater ſucceſs has of late attended the extirpation of cancerous lips, than was

ever formerly experienced; and the only evident reaſon for it is, that during that period, in the greateſt number of caſes, the operation has been performed in the manner commonly practiſed for the cure of the hare-lip. Whereby not only a very narrow cicatrix is left, but the deformity attending it is very inconſiderable: and another very agreeable circumſtance to the patient, is, that he can always retain his ſpittle, or any other liquid, juſt as well as before the operation; which never can be the caſe when any conſiderable portion of the under-lip has been extirpated in the ordinary manner.

It is proper in this place to obſerve, too, that very extenſive cancers in theſe parts admit of being treated in this manner; for the lip being compoſed of parts which yield very conſiderably, it cannot, but from experience, be imagined, how far they may be brought to ſtretch. In ſome inſtances, where more than the half of the under-lip was taken away, I have brought

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the remaining parts to ſtretch ſo far, as to admit of a cure being effected in the hare-lip form, and with very little deformity being produced. And, in the ſame manner, in cancers of the mamma, when the external teguments are not wholly diſeaſed, ſo much of them may, in general, be preſerved, as will be ſufficient for covering a great part of the wound occaſioned by the operation; a circumſtance which always renders the cure both more quick and more certain than it otherwiſe would be.

When the ſkin and teguments which have been preſerved, can be retained in their ſituation by the proper application either of the uniting bandage, or of pieces of adheſive plaſter, it ought always to be done; but in general it anſwers better to ſecure any looſe portions of the parts which have been divided, by means either of the interrupted or twiſted ſutures. The difference of pain produced by this method is inconſiderable; and we are always more certain of ſecuring the ſkin by ligatures, than by any other means.

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In the ordinary method of extirpating cancerous breaſts, a very extenſive ſore is always left: by the retraction of the divided ſkin it frequently appears to be at leaſt twice the ſize of the diameter of the tumor newly removed; by this means a very copious ſuppuration takes place, which in weakly conſtitutions proves always very prejudicial; a cure is tedious in accompliſhing; and the cicatrix which remains being of a conſiderable extent, the parts are afterwards very liable to injuries. Inſtead of this, no more ſkin ſhould be removed than is really diſeaſed; and if a ſimple inciſion be afterwards made thro' the ſkin and cellular ſubſtance along the courſe of the ſwelling, all the ſound teguments which cover it may thus be ſeparated from it; and on the tumor being extirpated, and the teguments being again replaced, they may be retained in their ſituation in the manner we have mentioned, either by ligatures, by the uniting bandage, or by the aſſiſtance of adheſive plaſters. In this manner I have on different occaſions

accompliſhed

accompliſhed the cure of ſores remaining after the extirpation of cancerous breaſts, in the ſpace of three weeks or a month; which, in the uſual method of performing this operation, would not have healed in leſs than eight or ten weeks.

3. After all the cancerous parts have been removed, if the ſore cannot be entirely covered by ſuch portions of the ſkin as have been ſaved, and if any conſiderable quantity of blood is diſcharged by the ſmaller veſſels, the remaining wound ſhould be dreſſed in the uſual manner with dry lint; but when this does not happen, no dreſſing anſwers ſo well as pledgits of one or other of the mild ointments we have already recommended: and when the dreſſings can be eaſily removed, by a free ſuppuration coming on, the ſore being now in a ſtate exactly ſimilar to a ſimple ulcer from any other cauſe, is to be treated accordingly, and a cure to be promoted as quickly as poſſible.

4. But ſome little time before the ſore heals up, an iſſue ſhould be introduced, ſo as that it may come to diſcharge freely before

before the cicatrix is quite formed. This, when the complaint has been of long ſtanding, is particularly requiſite; as alſo, when it ſeems to have been occaſioned by any particular determination, in conſequence of a redundancy of fluids in the ſyſtem, either from ſuppreſſed menſes, or from any other cauſe. And in this way I have no doubt but an iſſue may be, and frequently has been, a means of preventing the return of cancers after extirpation.

It has been ſometimes adviſed, as the beſt method of forming ſuch a drain, to keep the part open from whence a cancerous tumor has been extirpated. I ſhould ſtrongly ſuſpect, however, that the irritation produced by an iſſue, directly upon the old ſeat of a cancer, might ſometimes do miſchief: and as all the advantages attending the practice are probably to be obtained from an iſſue on whatever part it is ſituated, I would therefore always adviſe, that the ſore itſelf ſhould be immediately healed up; and that an iſſue ſhould be introduced, in the manner we have mentioned,

tioned, in ſome other convenient ſituation. After cancers of the breaſt, it has been a frequent practice in the Royal Infirmary here, to put a ſeton into the ſide, near to the original ſeat of the diſorder; and as it has been thought to produce conſiderable advantages, and as the ſide is perhaps as convenient a ſituation for a drain as any other, it may therefore be always preferred.

Theſe are the different circumſtances, in general, to be attended to in the extirpation of cancers; and as, from what has already been ſaid, the removal of the diſeaſed parts ſeems to be the only effectual remedy in every caſe of cancer, there are very few circumſtances only, which ſhould ever prevent its being put in practice. And theſe, in general, are,

1. When, by a long continuance of the diſorder, cancerous ulcers, and ſcirrhous glands, have appeared in ſeveral different parts of the body, the removal of one, or even all of theſe, as it would not probably prove effectual, ſo, in ſuch circumſtances, the

the operation, it is preſumed, ought not to be recommended.

2. When a cancerous tumor adheres ſo firmly to the parts beneath, that the whole of it cannot be removed, whilſt at the ſame time it might be dangerous to extirpate along with it thoſe parts with which it is connected, extirpation can never be adviſable. Thus cancers adhering to the trachea arteria, or to the coats of a large artery, can never, without the greateſt riſk, be extirpated.

One inſtance of the raſhneſs of a ſurgeon, in attempting an operation in ſuch circumſtances, and which was attended with effects which proved immediately fatal, came within my own knowledge. In an attempt to cut out a large ſcirrhous tumor ſeated upon, and lying immediately contiguous to, the femoral artery, and ſo high in the thigh that a tourniquet could not be applied, the artery was unfortunately opened, and the patient died among the ſurgeon's hands.

But the attachment of cancerous tumors

mors to the circumjacent muſcles or tendons, ſhould never entirely prevent their extirpation; for conſiderable portions of theſe, it is well known, may, without much inconvenience, be taken away along with them. I have, on many occaſions, been reduced to the neceſſity of taking away large portions of the pectoral muſcle along with cancerous tumors of the mamma, without any inconvenience enſuing from it.

There is a paper upon cancers by the celebrated Monſieur le Cat of Rouen, inſerted in the firſt volume of Memoirs of the Academy of Surgery at Paris; in which the author is clearly of opinion, that extirpation is the only remedy to be depended on, and adviſes it in the moſt deſperate caſes. But on the ſubject of which we are now treating, he goes a much greater length than I could from experience venture to do: although, independently of the authority of ſuch a reſpectable author, and of the inſtances he mentions of the ſucceſs of his practice, I think

think there cannot be the leaſt doubt of its being better to follow his advice, than to allow a patient, labouring under a cancer, to remain with the certain proſpect of ſuffering a miſerable death, and without making trial of the only remedy which art can afford. For, however fixed a cancerous tumor may appear, if the parts to which it adheres, can without much danger be removed, and if the caſe is otherwiſe favourable, the operation ought undoubtedly to be always adviſed *.

This was my opinion ſeveral years ago, when the firſt edition of this work was publiſhed: Since that period, I have met with many inſtances of very bad cancers, particularly of the mamma; in ſome of which, attachments occurred to the perioſteum of the ribs; and in others, the diſeaſe was found to extend to the corre-

ſponding

* Upon this ſubject M. le Cat expreſſes himſelf thus: " L'adherance d'un cancer *aux muſcles pectéraux, aux cotes meme,* ne fera pas un excuſe valable, ſi *ces muſcles* ſi *ces attaches* de la tumeur aux cotes peuvent etre emportes, de façon qu'il ne reſte, que de ſain au-dela. *Loco citato.*

ſponding clavicle, and frequently by a chain of indurated glands to the very bottom of the arm-pit. Very few caſes, however, have occurred, in which, by cautious diſſection, the diſeaſed parts were not totally extirpated; and in every inſtance where this was found to be practicable, much advantage was evidently derived from it: In moſt of them, no return of the diſeaſe has been as yet experienced; and, even in thoſe which have relapſed, much relief has been derived from the operation, by the pain and miſery of the patient having been for ſome time removed by it; whilſt in no inſtance, were the ſymptoms which enſued from a return of the diſeaſe, more ſevere, than thoſe to which the patient had been liable before any operation was adviſed.

3. But, an operation can never be adviſable, where the diſeaſed parts are ſo ſituated as to prevent their being totally extirpated; as is the caſe in cancers of the uterus, of the liver, rectum, &c.

When, from the exiſtence of one or all of theſe cauſes, a cancer cannot with pro-

priety be extirpated, the next conſideration is, to palliate the different ſymptoms, ſo that the diſeaſe may be rendered as tolerable to the patient as poſſible.

As, for this purpoſe, the great object to be kept in view, is the abatement or prevention of pain, nothing ſhould be either exhibited internally, or applied outwardly, that can have the leaſt effect in raiſing irritation or inflammation. So that, for diet, the lighteſt vegetables and milk ſhould be preferred to every thing elſe; no animal food ſhould be allowed, nor ſpirits, wine, or any fermented liquors; all violent exerciſe, and whatever, in ſhort, can heat, or as it is termed inflame, the blood, ſhould be carefully avoided.

The fetor attending cancerous ulcers being commonly very diſagreeable, and the matter afforded by them being uſually very thin and acrid, it becomes always a conſideration of importance to have theſe circumſtances changed, and a diſcharge of a better nature induced. In this view, hemlock frequently proves ſerviceable, both as

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an internal medicine and as an external application. For internal uſe, there are two preparations of the remedy commonly uſed; the powder, and the extract: But as the former, when properly prepared, ſeems to poſſeſs all the virtues of the latter, and as it is not liable to ſo many accidents in the preparation, it ſhould for that reaſon be in general preferred. The extent of the doſe, and number of repetitions, can never be determined but by trial; ſome patients being able to bear three times the quantity that others can admit of: ſo that theſe circumſtances muſt always be regulated by the ſtrength of the patient, and by the ſtate of the ſtomach at the time.

When recent hemlock can be procured, a quantity of the juice being mixed with the common emollient poultice, makes a very convenient and effectual application for cancerous ſores; and in the winter-ſeaſon, when the juice cannot be obtained, the dry powder made into a poultice in the ſame manner, anſwers the purpoſe tolerably well.

The external uſe of cicuta proves generally more expeditious than its internal exhibition, in procuring a diſcharge of good matter; and, in this reſpect, it commonly proves more effectual too, even than the carrot-poultice, ſo much recommended for this purpoſe in different kinds of ſores.

A good diſcharge being once obtained, the common unguentum cereum is the mildeſt and moſt ſimple application that can be uſed; and the parts ſhould be dreſſed with it more or leſs frequently, as the diſcharge is more or leſs copious: But the ſeveral dreſſings ſhould be performed ſo quickly as to prevent as much as poſſible the admiſſion of the air, which in every ulcer, but more eſpecially in the cancerous, always produces diſagreeable effects, both in cauſing irritation, and in vitiating the nature of the diſcharge.

The violent ſhooting pains which prove always ſo tormenting in cancerous caſes, are frequently moderated by a continued uſe of cicuta; but when this effect is not obtained from it, it becomes neceſſary to have

have recourſe to opiates in large doſes, which ought to be repeated at ſuch intervals as the violence and returns of the pain may indicate. Theſe pains, too, are ſometimes relieved by the uſe of warm emollient fomentations.

By a proper attention to the different circumſtances we have taken notice of, particularly to the preſervation of a well-conditioned diſcharge, and by a well-timed uſe of opiates, very bad caſes of cancer may be ſometimes ſo far palliated, as to render them, in ſome meaſure, tolerable; though never to ſuch a degree as to prevent the ſufferers from regretting daily their not having, in due time, had recourſe to extirpation.

Various remedies have at different times been propoſed for the cure of cancers, of which, in the courſe of this treatiſe, we have taken little or no notice. Of theſe the cicuta which we have juſt now ſpoken of, belladona, and different preparations of arſenic, have been moſt frequently employed. But although the cicuta, as

we have ſaid above, has, in ſome inſtances, been a means of producing a good diſcharge from cancerous ſores, yet neither this nor either of the others have ever, ſo far as I know, produced any permanent advantages in caſes of real cancer.—We have heard of arſenic proving uſeful in cancers, not only as an external application, but as an internal remedy: but although I have employed it in a variety of caſes, the reſult of theſe trials has never proved in any degree adequate to the accounts which have been given of it.

In a late publication on cancerous diſorders by Mr Juſtamond of London, we find an eſcharotic application much recommended. It was long employed in Vienna and other parts of Germany; and as Mr Juſtamond, whoſe experience in cancerous diſeaſes has been extenſive, ſpeaks favourably of it, it therefore merits the attention of practitioners: Although I have uſed it, however, in different caſes, I have not as yet obſerved any real advantages to enſue from it; but as no remedy ſhould be haſtily rejected,

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which has been recommended by an author of reputation, I am reſolved to give it a fair and impartial trial. This application is a compoſition of ſteel and ſal ammoniac infuſed in ſpirit of wine, with a certain proportion of oil of tartar and ſpirit of vitriol. The edges of cancerous ſores, as well as the hard tumors or excreſcences which frequently occur in ulcers of this kind, are by Mr Juſtamond's method kept conſtantly moiſt with this liquid; and during the uſe of it, he likewiſe recommends an internal uſe of ſteel and ſal ammoniac in the form of flores martiales.

In other ſpecies of ulcers attended with a diſcharge of thin fetid matter, and in which tonic remedies ſeem to be indicated, I have in different inſtances uſed the flores martiales with advantage; but, as I have already obſerved, neither this, nor any other medicine, has ever, in the courſe of my experience, produced any material benefit in caſes of cancer.

The flores martiales, may be given either in the form of pills, or in powders. It

ſeldom produces ſickneſs, and may therefore be given in much larger doſes than are commonly employed.—The firſt doſes ſhould not exceed twelve or fifteen grains; but they may be increaſed, in a gradual manner, to half a drachm or more, to be repeated three, four, or five times daily. In every caſe where ſteel medicines are found to be proper, the flores martiales, by conveying the remedy in a very ſubtile form, is perhaps preferable to any other preparation of it *.

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* To ſuch as have not an opportunity of peruſing Mr Juſtamond's treatiſe upon this ſubject, it may prove acceptable to have the preſcription for the liquid which he recommends ſo warmly as an application in cancerous affections. It is as follows.

R. Ramentor. ferri lotor. et ſupra ignem in vaſe aperto ſiccatorum & minutiſſime contuſorum, ſalis armoniaci in pulveram redacti, āā unc. iv. Mixta dentur in retortam terream optime in fundo et circumferentia lege artis minutam, imponatur hæc capellæ, admoveatur vas vitreum recipiens, quod bene lutetur: detur ignis in gradu digeſtionis; & dum retorta caleſieri incipit, augeatur ſucceſſive ad ſublimationis, finitaque ſublimatione ad calcinationis, gradum. Hoc facto

SECTION IX.

Observations on the Cutaneous Ulcer.

§ 1. *General Remarks on Cutaneous Affections.*

THERE are few complaints, which are leſs underſtood by practitioners, than the different diſorders to which the ſkin is liable. This, indeed, is in ſome mea-

facto ſucceſſivæ refrigeratione committatur retorta, et ex refrigerata fractaque accipiatur calcinatum in fundo hærens, caput mortuum teratur, et ſubigatur minutiſſime in mortario lapideo; dein ſubactum imponatur in vas vitreum, et affundantur ſpiritus vini rectificatiſſimi Empyreumaticum odorem non redolentis lb. ij. Agitentur ſæpius primis octo horis: poſt viginti quatuor horas agitatis denuo inſtilletur tribus quatuorve inter-

meaſure the caſe, both with reſpect to ſuch as are attended with fever, and thoſe that are not: it is, however, more eſpecially ſo with the latter, which only are to be here taken notice of; thoſe of the exanthematous kind, as they are termed, belonging more properly to the province of medicine.

The appearances of ſuch complaints are ſo various, and the deſcriptions given of them by different authors are ſo confuſed and

interſtitiis obſervatis, acerrimi, ut vulgo vocatur, olei vitrioli nigri unc. i.—ad quamvis inſtillationem ſemper mixta agitando; deinde in quiete permittantur per viginti quatuor horas, his elapſis decantetur tinctura, reſiduo vero in fundo affundantur prioris ſpiritus vini lb. ij. Agitentur iterum pluries, dein extractio de novo relinquatur per viginti quatuor horas; his tranſactis inſtilletur iterum, ut prius, olei vitrioli ſupradicti unc. i. Effervescentia finita vero infundantur ſpiritus tartari ſimplicis unc. iv. Agitentur, et finita agitatione aliquoties repetita relinquantur in vaſe per viginti quatuor horas; his elapſis ſecunda hæc ſolutio miſceatur priori decantatæ et optime ſimul agitentur, tunc parata eſt ad uſum PANACEA NOSTRA ANTI-CANCROSA.

This was originally publiſhed by Dr Francis Xaverius de Mare, in a treatiſe which he publiſhed ſome years ago at Vienna.—He had long kept this liquid a ſecret, but at laſt made it public in the year 1767.

and intricate, that it is ſcarcely poſſible, from the ſeveral writings on the ſubject, to collect any thing ſatisfactory. By different writers, different names have been given to the ſame appearances; many complaints of this kind are enumerated by old writers, which are now never to be met with; and diſeaſes of a ſimilar nature, though ſtill, in ſome reſpects, different, have been regularly deſcribed by modern authors, which do not appear, in ancient times, to have been at all known. It is much to be wiſhed, therefore, that, by ſome able practitioner, a thorough inveſtigation of the ſubject was attempted, as there does not appear to be any part of medicine more defective than that which relates to the hiſtory and theory, as well as to the treatment, of cutaneous diſorders.

To give a particular detail of all the varieties of theſe complaints, would of itſelf require a pretty extenſive volume, and it would alſo be entirely foreign to our purpoſe; all that is here propoſed, being to give a few general obſervations upon ſuch erup-

eruptions of this kind, as, when neglected or improperly treated, are apt to give riſe to troubleſome ulcers.

A great many complaints of the eruptive kind, have, by different authors, been deſcribed under the term Herpes, from their being very apt to ſpread, or to creep, as it were, from one part to another; and by this appellation have been diſtinguiſhed, by late writers, ſeveral diſorders which, though not entirely the ſame, yet bear a conſiderable reſemblance to the lepra of the Greeks, and to the ſeveral ſpecies of impetigo enumerated by Celſus. As none of theſe, however, are now in their true form ever to be met with, at leaſt in theſe climates, it is not here neceſſary to enter into a particular enumeration of them; and this more eſpecially, as very minute deſcriptions of them can be found in many of the old writers, and nothing new, it is probable, can now be offered on the ſubject.

§ 2. *Of the different Species of Herpes.*

THERE have commonly been comprehended, it was remarked, under the term Herpes, a variety of eruptive diſorders: but many of the diſtinctions in theſe are taken from very trivial circumſtances, and ſuch as do not in any reſpect influence the treatment; and on examination it will be found, that all the varieties of importance may be comprehended in the four following ſpecies, viz. the Herpes Farinoſus, Puſtuloſus, Miliaris, and Exedens.

The firſt of theſe, viz. the Herpes Farinoſus, or what may be termed the dry Tetter, is the moſt ſimple, both in its nature and treatment, of all the ſeveral ſpecies. It appears indiſcriminately in different parts of the body; but moſt commonly on the face, neck, arms, and wriſts, in pretty broad ſpots of exceeding ſmall red pimples. Theſe are generally very itchy, though not otherwiſe troubleſome: and after continuing a certain time, they at laſt fall off in the form of a white powder ſimilar to fine bran, leaving

leaving the ſkin below perfectly ſound; and again returning in the form of a red efflorescence, they fall off and are renewed as before.

The ſecond ſpecies of the diſorder, viz. the Herpes Puſtuloſus, appears in the form of puſtules, which originally are ſeparate and diſtinct, but which afterwards run together in cluſters. At firſt they ſeem to contain nothing but a thin watery ſerum, which afterwards turns yellow; and, exſuding over the whole ſurface of the part affected, it at laſt dries into a thick cruſt or ſcab: When this falls off, the ſkin below frequently appears entire, with only a ſlight degree of redneſs on its ſurface; but, on ſome occaſions, when the matter has probably been more acrid, upon the ſcab falling off, the ſkin is found ſlightly excoriated. Eruptions of this kind appear moſt frequently on the face, behind the ears, and on other parts of the head; and they occur moſt commonly in children.

The third ſpecies of Herpes, viz. the Miliaris, breaks out indiſcriminately over the whole

whole body; but more frequently about the loins, breaſt, perinæum, ſcrotum, and inguina, than in other parts. It generally appears in cluſters, though ſometimes in diſtinct rings or circles, of very minute pimples, which, from their reſemblance to the millet ſeed, has given riſe to the denomination of the ſpecies. The pimples are at firſt, though ſmall, perfectly ſeparate; and contain nothing but a clear lymph, which, in the courſe of the diſeaſe, is excreted upon the ſurface, and there forms into ſmall diſtinct ſcales: theſe at laſt fall off, and leave a conſiderable degree of inflammation below, that ſtill continues to exſude freſh matter, which likewiſe forms into cakes, and ſo falls off as before.

The itching in this ſpecies of the complaint is always very troubleſome; and the matter diſcharged from the pimples is ſo tough and viſcid, that every thing applied to the part adheres in ſuch a manner, as to occaſion a great deal of trouble and uneaſineſs on its being removed.

The different ſpecies of herpes are commonly,

monly, in England, diſtinguiſhed by the names of Tetter, Shingles, and Ringworm, but the laſt is moſt frequently applied to the variety of the diſorder which we are now conſidering.

The Herpes Exedens, ſo called from its deſtroying or corroding the parts which it attacks, appears commonly at firſt in the form of ſeveral ſmall painful ulcerations, all collected into larger ſpots of different ſizes and of various figures, with always more or leſs of an eryſipelatous-like inflammation. Theſe ulcerations diſcharge large quantities of a thin, ſharp, ſerous matter; which ſometimes forms into ſmall cruſts, that in a ſhort time fall off; but moſt frequently the diſcharge is ſo thin and acrid, as to ſpread along the neighbouring parts, where it ſoon produces the ſame kind of ſores.

Though theſe excoriations or ulcers do not, in general, proceed farther than the cutis vera; yet ſometimes the diſcharge is ſo very penetrating and corroſive, as to deſtroy the ſkin, cellular ſubſtance, and, on

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ſome occaſions, even the muſcles themſelves. It is this ſpecies of the diſorder which ſhould properly be termed the Depaſcent or Phagedenic ulcer, from the great deſtruction of parts which it very frequently occaſions: but, by a piece of very great impropriety, ulcers of the herpetic kind have moſt commonly been ſuppoſed to be connected with ſcurvy; and have, therefore, by practitioners in general, been uſually diſtinguiſhed by the appellation of Scorbutic. Whereas, there is nothing more certain, than that herpes is a complaint which is generally, if not always, connected with that ſtate of the ſyſtem, probably the moſt oppoſite of any to that which takes place in true ſcurvy, I mean the plethoric and inflammatory; whilſt in ſcurvy a high degree of putreſcency is well known to conſtitute the very exiſtence of the diſeaſe.

And beſides, the real ſcorbutic ulcer, hereafter to be deſcribed, exhibits appearances perfectly different from the diſorder now under conſideration; inſomuch that

there is ſcarcely a poſſibility of miſtaking the one for the other; and the remedies neceſſary in the two diſeaſes are juſt as oppoſite as their ſeveral ſymptoms and appearances are different.

This ſpecies of herpes appears, at times, in every part of the body, but moſt frequently about the loins, where it often ſpreads to ſuch a degree as to ſurround the whole circumference of the waiſt. It ſeems to be eaſily communicated by contagion, that is, by the application of the virus either through the intervention of clothes, ſpoons, or other table utenſils. This is indeed the caſe, in ſome degree, with every ſpecies of herpes; I have known inſtances even of the firſt or dry ſpecies of the diſorder proving ſo, which would not *à priori* be ſo readily ſuſpected.

§ 3. *Of the Cure of the Cutaneous Ulcer.*

It was already remarked, that, in the deſcriptions given of theſe diſorders, there is very little accuracy to be met with amongſt authors. The ſame confuſion and uncertainty

uncertainty likewiſe occur in the method of cure.

It was always, till lately, believed, that eruptive diſeaſes of this nature could never appear but in conſequence of ſome general morbid affection of the ſyſtem; and accordingly, a great variety of internal remedies have been recommended by almoſt every author who has written upon the ſubject. It has even been commonly conſidered as an unſafe and dangerous practice to attempt the cure of ſuch eruptions, in any other way than by correcting the original diſorder of the fluids, which at firſt was ſuppoſed to have produced them.

It is ſomewhat ſingular, however, that the opinion ſhould have remained ſo long uncontroverted by regular practitioners; as, from the writings of many old authors, it appears that complaints of this kind were conſtantly and eaſily cured, as they ſtill are by every itinerant practitioner, with local external applications only.

This, we ſhould imagine, ought very ſoon to have overturned the general notion

which prevailed with reſpect to the nature of theſe diſorders, and which ſeemed all along to have no other foundation than antiquity for its ſupport. Modern practitioners, however, not being ſhackled by ſuch authority, have, in many inſtances, ventured to diſpute, and boldly to deviate from, the opinions of their predeceſſors; and the improvements which have univerſally reſulted from ſuch a free ſpirit of inquiry, have never yet given them reaſon to repent their having done ſo.

This, in no inſtance, has been more remarkable, nor attended with better effects, than in the treatment of cutaneous diſorders, which, from having been very perplexed and intricate, will ſoon, it is hoped, become a very ſimple and eaſy part of the practitioner's employment.

Inſtead of the tedious and debilitating courſes of medicines which patients went through formerly, and which perhaps they are ſtill too frequently obliged to undergo, it is now found, that the greateſt number of theſe complaints are more certainly and

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ſpeedily removed by the uſe of local remedies merely, than they ever are by a contrary courſe. This, probably, is one reaſon, amongſt others, why all complaints of this nature are claſſed among local diſorders, in the Genera Morborum of our juſtly celebrated profeſſor Dr CULLEN; and which, without any other ſanction, would, of itſelf, be ſufficient authority for their being here inſerted among ſuch affections *.

That internal remedies may ſometimes be of uſe, and even neceſſary, in many inſtances of cutaneous eruptions, will not, probably, ever be doubted; but that they ever prove ſerviceable in the way commonly imagined, namely, by correcting particular kinds of acrimony ſuppoſed to exiſt in the maſs of fluids, does not appear in the leaſt probable: Nor do the good effects which are ſometimes produced by internal medicines render it leſs certain that

* The character given by Dr Cullen of the claſs Locales, is, "Partis, non totius corporis, affectio." Vid. Synop. Noſolog. Method. Edinburgi.

cutaneous affections are in general only local diſorders.

Thus, in many diſeaſes of the ſkin, antimonials are frequently exhibited with conſiderable advantage. But the principal advantages attending them ſeem to depend entirely upon their producing a determination to the ſkin, and keeping up a free diſcharge of the matter of perſpiration; which frequently, from want of cleanlineſs, and ſometimes from other cauſes, being long retained on the ſurface of the body, and there turning acrid, may often, it is probable, give riſe to many of our cutaneous affections. And accordingly we find, that all ſuch remedies prove conſtantly more or leſs effectual, according as they are more or leſs powerful in keeping up a free perſpiration.

By thoſe who maintain, that an acrimony of the fluids is the moſt common cauſe of ſuch diſorders, it is ſuppoſed, that the beneficial effects of antimonials and other diaphoretic medicines depend entirely on their evacuating or carrying off the morbid

morbid matter, with which the fluids, in theſe diſorders, are imagined to abound.

Many arguments, however, occur againſt the probability of this opinion; and in particular the difficulty, or rather impoſſibility, of ſhowing how theſe morbid matters, ſuppoſing that they really exiſted, ſhould be more readily evacuated by ſudorifics, than the other parts of the blood with which they muſt in the courſe of the circulation be intimately mixed: but what puts it beyond a doubt that all ſuch medicines act entirely in conſequence of their preſerving a free perſpiration, and not by evacuating any fluids particularly morbid, is, that the very ſame advantages, in all ſuch complaints, are frequently to be obtained, merely by the uſe of repeated warm bathing, with a due attention in other reſpects to cleanlineſs.

From this view of the theory of ſuch complaints, many circumſtances with reſpect to them can be much more clearly accounted for, than on any other ſuppo-

ſition. Of theſe, however, we cannot here enter into a full conſideration; and ſhall only obſerve, that by it may be explained the reaſon why ſuch eruptions appear very frequently in a partial way only, which they often do, by breaking out in a ſingle ſpot, without affecting any other part of the ſurface. This we cannot ſuppoſe would frequently happen if theſe diſorders always proceeded from a general affection of the ſyſtem; but it may very readily occur from a local ſtoppage of perſpiration, occaſioned by the application of ſuch cauſes to particular parts as we know to be generally followed with that effect. And upon this principle, as was already remarked, is accounted for, much more obviouſly, the operation of the ſeveral remedies, than on any other.

In the treatment of every diſorder of this kind, the firſt and principal circumſtance to be attended to, is, that not only the parts affected, but even the whole ſurface of the body, be kept as clean and perſpirable as poſſible: for which purpoſe

nothing

nothing is of ſo much importance as the frequent uſe of warm bathing, together with gentle friƈtions with clean linen cloths; which, in the dry ſpecies of the complaint, may be applied over even the diſcaſed parts; but in the others, eſpecially where conſiderable ulcerations occur, the friƈtions can be applied to ſuch parts of the body only as are not, at the time, affeƈted. When due attention is paid to this article of cleanlineſs, few or no internal remedies are ever neceſſary in the ſlighter ſpecies of herpes.

Of all the external applications, uſually employed both in the mild and in the more inveterate ſpecies of theſe diſorders, the ſeveral drying and aſtringent remedies are moſt to be depended on: Of theſe, the moſt ſimple of all is lime-water; which, in ſlight caſes of dry tetter, often anſwers the purpoſe, but it ſeldom proves effeƈtual in any of the others.

The different ſolutions of lead in the vegetable acid, prove often, in affeƈtions of this nature, very effeƈtual; and of theſe the watery

watery ſolution of ſaccharum ſaturni, as directed in the treatiſe on inflammation, is always moſt to be depended on. It may either be applied in the form of cataplaſms, or on ſoft linen rags laid directly upon the parts. The latter is perhaps the moſt convenient method; and in ſuch affections, from its being more cleanly than poultices, ſhould always be preferred.

Although this, in general, is found to be a very uſeful application in the milder eruptions of this kind; yet, in ſuch caſes as prove to be inveterate, I have frequently found, that weak ſolutions of corroſive ſublimate in water, have proved more beneficial. About ten grains of the former, to a pound of the latter, makes, for all ſuch affections, a very eaſy and efficacious waſh.

Decoctions of the different kinds of boles, and of the aſtringent earths, are ſometimes, too, uſed with advantage in ſlight caſes of this kind; but in general, the preparations of lead, as we have directed above, with the watery ſolution of corroſive

roſive ſublimate, prove a great deal more effectual; and do indeed, in a great meaſure, render every other application unneceſſary.

Ointments prepared with ſaccharum ſaturni, and corroſive ſublimate, have frequently too, in theſe diſorders, been uſed with advantage: but as, in ſuch forms, they muſt neceſſarily be combined with unctuous ſubſtances, they cannot of courſe prove ſo cleanly as the watery ſolutions of the remedies; and as they do not in that way prove in any reſpect more efficacious, they ought never therefore to be preferred.

By proper attention to the different circumſtances we have mentioned, many of the milder complaints of the herpetic kind are often removed: but when the diſorder is of a more inveterate nature; when it is of long ſtanding; and eſpecially when it is accuſtomed to diſcharge large quantities of matter, as in the herpes exedens frequently happens, other remedies come likewiſe to be neceſſary.

The more obſtinate and virulent ſuch com-

complaints are, the greater attention becomes requiſite to the promoting of a free diſcharge by the ſkin; for which purpoſe, together with warm bathing, as we formerly recommended, warm diluent drinks ſhould be plentifully allowed. New whey anſwers in this view very well, and it is likewiſe of uſe as a gentle laxative. Decoctions of ſarſaparilla and of mezereon, both ſeparately and combined, have, in different forms, been recommended for the ſame purpoſe. Although I have known them uſed, however, in a variety of caſes, I cannot ſay they ever ſeemed to be attended with any ſuperior advantages to thoſe which are produced by the decoctum lignorum of the ſhops; which, when properly exhibited, proves always a powerful diaphoretic. And we have it always in our power to increaſe the diaphoretic powers of this remedy by adding to each cupful of the decoction, fifteen or twenty drops of tincture of antimony.

When, in this manner, two or three pounds of the remedy are taken at proper inter-

intervals every twenty-four hours, it ſeldom fails to keep up a very free perſpiration.

As a gentle diaphoretic too, I have often known crude antimony prove uſeful, when duly prepared, and given to the quantity of about two drachms in the day, either in powder or in the form of an electuary. It commonly anſwers tolerably well by itſelf; but, when conjoined with a ſmall proportion of gum guaiac, it ſeems not only to prove more certainly ſudorific, but more readily goes off by ſtool, which in ſome caſes renders the combination of the two remedies of ſervice.

In patients of plethoric habits, in whom complaints of this nature frequently occur, laxatives prove often ſerviceable; but thoſe of the cooling kind only ſhould be uſed. Sea-water is very commonly preſcribed in theſe diſorders as a purgative, and it frequently anſwers exceedingly well; but to many patients it proves ſo nauſeous and diſagreeable, that it cannot be exhibited in proper quantities. When this is found to be the caſe, cream of tartar, which is a much more

more agreeable medicine, may be uſed inſtead of it: and as it cannot be conveniently given in ſolution, on account of the large proportion of water neceſſary for diſſolving it, the moſt commodious way of uſing it is in the form of an electuary; ſix or eight drachms of the remedy in powder, with an equal quantity of ſugar, being made into the conſiſtence of a linctus, or of an electuary with the mucilage of gum arabic, makes an eaſy doſe of a very agreeable laxative.

Together with theſe internal remedies, an iſſue, in the more inveterate ſpecies of herpes, becomes always neceſſary; and it ſhould indeed be among the remedies firſt preſcribed; for here, as in the treatment of all old ulcers which have ſerved as iſſues to the conſtitution, the cure of the diſorder is rendered more certain and eaſy, by eſtabliſhing proper drains for the ſuperfluous fluids; without which the ſores, although they may be healed, are very apt ſoon to break out again.

In different eruptions of this kind, eſpecially

cially in the herpes exedens, very conſiderable degrees of inflammation often occur; for the removal of which, warm poultices and fomentations are generally employed, but ſeldom or never with any advantage. And in no caſe whatever does the ſuperiority of ſaturnine applications over the whole tribe of emollients, in inflammatory affections, appear more evident than in this. For the latter almoſt conſtantly ſeem to encourage the ſpreading of the ſecreted acrid humour; and thus, inſtead of removing inflammation, in ſuch inſtances, they rather tend to promote it: whereas the different ſaturnine applications appear not only to correct the acrimony of ſuch humours, but tend greatly to prevent their ſpreading ſo far as they otherwiſe would do.

In all ſuperficial ulcerations of the herpetic kind, the ſaturnine and ſublimate ſolutions, as we have already recommended, in general prove effectual; but whenever the ulcers have penetrated deep into the ſubſtance of the muſcles and other parts,

parts, as they frequently enough do, an ointment prepared with calcined zinc I have ſometimes found to anſwer better: about two drachms of zinc in fine powder, to ſix drachms of axunge, ſeems to be in general a proper proportion. It leſſens the inflammation which commonly takes place; and it has often a conſiderable effect in altering the nature of the diſcharge from a thin acrid ſanies to a thick purulent matter.

The common unguentum ſaturninum is alſo, when newly prepared, a very proper application for the ſame purpoſe. But it ought never to be made uſe of after being long kept: for the lead ſeems thereby not only to loſe its activity, which it in ſome meaſure, in unctuous preparations, always does; but that ointment, probably from its being prepared chiefly of axunge, or of wax and oil, without any addition of the antiſeptic gums and reſins, is much more apt to turn rancid than almoſt any other ointment in common uſe.

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In ſuch caſes, too, an ointment prepared with axunge and mercurius precipitatus albus, I have ſometimes known of uſe; but as it commonly occaſions a good deal of pain and irritation, it is not in every caſe admiſſible.

By a due continuance of the ſeveral remedies we have pointed out, whilſt proper attention is at the ſame time given to cleanlineſs, the moſt troubleſome ſpecies of herpes will in general be entirely removed. But in ſome inſtances, notwithſtanding the uſe of all theſe, and of every other ordinary remedy, complaints of this nature ſtill continue obſtinate; they do not ſeem to yield in the leaſt, and frequently even turn more inveterate.

In ſuch caſes, there is commonly much reaſon to ſuſpect that ſome other diſeaſe ſubſiſts at the ſame time; which, on inquiry, is frequently found to be of the venereal kind, for herpes often appears as a ſymptom of that diſeaſe. This, however, may commonly be known from the hiſtory of the complaint, and likewiſe from

the ſituation of the eruptions. For all eruptions of this kind which appear in lues venerea, are conſtantly above ſome of the hard and thinly covered bones, as thoſe of the cranium, ſternum, and tibia: at leaſt, in the beginning of the diſorder, theſe are the parts chiefly affected; though, no doubt, in its more advanced ſtages, the whole ſurface comes to be more or leſs affected.

As ſoon as the complaint is diſcovered to be of the venereal kind, its cure muſt depend in a great meaſure upon the general treatment neceſſary in that diſorder; ſo that, by a proper uſe of mercury, with a continuance of the different remedies already enumerated for herpes, all affections of this nature may in due time be expected to be eradicated.

On other occaſions, again, and when there is no cauſe for ſuſpecting a venereal taint, it ſometimes happens, that even the ſlighteſt ſpecies of tetter reſiſts all the common remedies both internal and external, and perhaps, too, becomes more inveterate.

In

In ſuch caſes, there is frequently conjoined with the diſorder which we are now conſidering, the common ſcabies or itch: and when it happens to be ſo, as I have ſometimes ſeen, a very diſagreeable and troubleſome diſeaſe comes to be produced; what may be conſidered as a tertium quid, or a production of the two; which, in its appearance, is exceedingly loathſome; little leſs ſo, indeed, than the deſcriptions that are given of the lepra of the ancients; and, when it is allowed to remain long, it proves ſometimes almoſt as inveterate.

The itch being ſuch a well-known diſorder, its conjunction with herpes is commonly very eaſily detected: and when once it is known to take place, the cure muſt conſiſt in the ſeveral remedies already recommended for herpes, together with ſuch as are more particularly active in the cure of ſcabies; and of which, though there are many recommended by authors, yet none ever prove ſo certainly efficacious as ſulphur. Mercury, too, does, no doubt, often cure complaints of this kind; as it

does, indeed, the itch in all its ſtages: yet as it fails in many inſtances, which ſulphur, when properly directed, very ſeldom does, the latter ſhould in general be preferred.

In every eruption of the herpetic kind to which children are liable, ſulphur, in one form or other, proves commonly more effectual than any other remedy: When in theſe complaints, therefore, the uſual remedies are found to fail, ſulphur ſhould always be employed; and, to practitioners of experience, it is ſcarcely neceſſary to remark, that the Sulphur Vivum, as it is termed, in fine powder, proves always much more effectual than the flowers of ſulphur. As this remedy evidently loſes much of its ſtrength by the proceſs of ſublimation, this preparation of it ſhould never be employed for any cutaneous eruption.

There is a ſpecies of herpes to which, in ſome conſtitutions, eſpecially in females, the face is particularly liable; and no variety of the diſorder proves either more diſtreſ-

diſtreſſing to patients, or more perplexing to practitioners.—All the common preparations of ſulphur, as well as different ointments and waſhes of the mercurial kind, are commonly employed here without any advantage; but the following combination of ſulphur with ſaccharum ſaturni, I have found to ſucceed in many inſtances of the moſt obſtinate ſpecies of this diſorder.

R. Lac. ſulphuris	-	ʒij.
Sacch. ſaturni	-	ϑj.
Aq. roſarum	-	℥viij. m.

The eruption to be bathed with this morning and evening, care being taken to ſhake the vial when uſed.

In what manner this remedy acts, I know not; but I have known different inſtances of complete cures being effected in very obſtinate caſes by a frequent uſe of it.

When, however, in caſes of this kind, as well as in every ſpecies of herpes, it may for ſome reaſon or other be thought proper to make uſe of mercury inſtead of ſulphur, an ointment ſimilar to what in the diſpenſatories is termed Unguentum Citri-

num, has on many occaſions been found to anſwer exceedingly well. But as this ointment has commonly been ordered with too great a proportion of mercury, it frequently acts as a cauſtic, and occaſions a great deal of irritation. That effect, however, is eaſily prevented, whilſt at the ſame time all the advantages of the remedy are preſerved, by diminiſhing the quantity of mercury: Half an ounce of mercury diſſolved in an ounce of ſtrong ſpirit of nitre, and a pound either of axunge or of freſh butter, have, upon trial, been found to be very good proportions: or, as this ointment is very apt to turn too hard, it may at firſt be made with a double proportion of mercury and ſpirit of nitre; and, by adding an equal quantity of axunge at the time of uſing it, the ſame ſtrength of the remedy is preſerved, whilſt at the ſame time an ointment is obtained of a better conſiſtence.

This makes a very effectual and perfectly ſafe ointment for all ſuch eruptions as partake either of a venereal taint, or that

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are in the leaſt connected with common itch; and may be uſed for the latter diſorder, in preference to all other mercurial applications, by thoſe who, on account of its offenſive ſmell, or for other reaſons, do not incline to make uſe of ſulphur. Indeed no preparation of mercury, in the courſe of my experience, has ever proved ſo uſeful as this ointment; not only in caſes of real herpes, but even in common itch. It only indeed requires to be more generally known, in order to be very univerſally employed in every affection of this kind.

By a proper and continued uſe of the ſeveral remedies recommended, but above all by a due attention to cleanlineſs, almoſt every herpetic complaint may at laſt be removed.

After theſe ſeveral obſervations on ſuch diſorders, it may not be improper to remark, that there are many complaints of the eruptive kind, to which children eſpecially are liable, which may all be reduced to one or other of the ſpecies of herpes

we have enumerated, and which of courſe may be all cured by the ſame general method of treatment.

Thus the tinea capitis, and cruſta lactea, are commonly deſcribed as diſtinct and unconnected diſeaſes: but both of theſe affections, it is preſumed, may, with propriety enough, be reduced to the ſame ſpecies of herpes; and they ſeem evidently, indeed, to belong to the ſecond, or what we have termed Puſtuloſus, as they appear to be exactly of the ſame nature, and to differ only in ſituation; the tinea being on the hairy ſcalp, what the cruſta lactea and other ſuch eruptions are upon the face.

The ſeveral means of cure we have enumerated for herpes in general, apply, as was obſerved, with equal propriety to any of theſe; but in the tinea capitis a peculiarity occurs from the ſituation of the diſorder, which, in the treatment, it has been frequently found neceſſary to attend to. In this complaint, the hair, by occaſioning a more conſiderable remora of the exſuded matter than what occurs in any other

ſpecies

ſpecies of herpes, produces in it a greater degree of acrimony, which ſometimes gives riſe to bulbous ſwellings, by being roots of the hair; and hence it has been ſuppoſed, that theſe ſwellings, by being perhaps the firſt parts affected, tend to produce and to keep up all the other ſymptoms of the diſorder: So that it is commonly recommended as the firſt ſtep in the cure of tinea, to extract entirely all the hairs by the roots, either with pitch-plaſters, or with ſome other adheſive application.

This, however, is always attended with a great deal of pain; it ſometimes produces very troubleſome inflammations; and beſides, it is never in any reſpect neceſſary in the firſt ſtages of the diſorder: for tho' in very long continued caſes of tinea, theſe tuberoſities at the roots of the hair do ſometimes become ſo conſiderable as to render the cure of ſuch affections more tedious than they otherwiſe would be; yet, merely by keeping the hair very ſhort, and the parts affected as clean as poſſible, the

the different remedies already enumerated almoſt always effect a cure, without having recourſe to the extraction of the hair.

The watery ſolution of corroſive ſublimate was already recommended as an external application for different herpetic eruptions; but in no ſpecies of the diſorder does it produce ſuch remarkably good effects as in tinea capitis; inſomuch that, except in very inveterate caſes, a cure may generally be obtained by the uſe of this remedy alone.

Iſſues have already been mentioned as being very uſeful in all eruptive diſorders of this kind; but in theſe complaints, which, in childhood eſpecially, are ſo common, they ſeem to be ſtill more neceſſary, and more uſeful, than in the advanced periods of life; for, as thoſe children that are particularly liable to ſuch eruptions, are commonly of very groſs full habits, it is ſcarcely poſſible often to obtain, at leaſt, laſting cures, without in the firſt place introducing adequate drains.

Indeed iſſues alone, with a proper attention

tention to cleanlineſs, will very frequently, in the firſt years of childhood, get the better of all ſuch complaints, without the aſſiſtance of any other remedy; and they do not by any means prove ſo prejudicial to the conſtitution as the frequent uſe of purgative medicines, which in ſuch caſes are ſo commonly employed. Purgatives do, no doubt, frequently prove ſerviceable, by carrying off ſuch ſuperabundances of fluids as the ſyſtem happens to be loaded with, but never in ſuch an eaſy gradual manner as is done by iſſues.

There has an objection been commonly made to the uſe of iſſues in general, that they are very apt to become ſo far habitual as to prevent them from being afterwards healed up, without conſiderable riſk. This, in children, however, ſhould never be any material objection to them: for, about the fifth or ſixth year, when children are able to take more regular and fatiguing exerciſe; when the ſyſtem, having acquired a firmer tone, is rendered more capable of preſerving a due balance between

tween the ſolids and different contained fluids; and when, in fact, the latter are never obſerved to be ſo abundant as in the preceding years of childhood; there is not then the ſame neceſſity for ſuch drains, and it might even in ſome inſtances be prejudicial to continue them longer. We do accordingly obſerve, about this period of life, that many of the eruptive diſorders, which had prevailed before, now diſappear entirely: nature then requiring a greater ſupply of fluids for all the different ſecretions, throws off, by their means, what had formerly been diſcharged by different eruptions upon the ſurface.

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SECTION X.

Obſervations on the Venereal Ulcer.

HAVING, in the ſeveral preceding ſections, gone through the conſideration of all ſuch ulcers as can with propriety be looked upon as local affections merely, thoſe of an oppoſite nature come next in courſe to be treated of; and they are, as was formerly remarked, to be comprehended in the ſecond claſs.

The general character of this claſs has been already given. It includes, as was formerly remarked, all ſuch ulcers as are connected with, or that depend upon, ſome general diſorder of the ſyſtem; and the ſeveral ſpecies of it are, the Venereal, the Scrobutic, and Scrophulous.

Having

Having ſpoken ſo fully upon the different ſpecies of local ulcers, all that is neceſſary upon thoſe of the ſecond claſs, is to point out, as conciſely and diſtinctly as poſſible, the different characteriſtics by which they may be diſtinguiſhed; together with ſuch remedies as may be peculiar to or proper for each; referring always to what may have been remarked in the preceding ſections, for whatever may, in common, occur between any two ſpecies of the different claſſes.

§ 1. *Varieties of the Venereal Ulcer.*

By venereal ulcers, in general, are meant ſuch as are connected with an univerſal ſyphilitic affection of the ſyſtem. But as chancres, and ſome other ſpecies of ſores which occur in that diſorder, may with equal propriety be termed Venereal Ulcers, although they are not always connected with a general infection, yet, in order to prevent any ſort of ambiguity, it will be proper here to comprehend the conſideration of theſe alſo.

Venereal

Venereal ulcers, then, may be divided into two varieties; namely, thoſe which appear as primary ſymptoms of the diſeaſe, and ſuch as may more properly be conſidered as ſymptomatic.

Of the former kind are chancres in general, whether upon the parts of generation, communicated by venereal intercourſe; upon the nipples and breaſts of women, by nurſing infected children; or on the lips and parts adjacent, communicated by ſalutation: for all ſuch ſores, though ſeated on different parts, are of one and the ſame nature. Thoſe ulcers, too, may ſometimes be reckoned primary, which remain after the opening or burſting of ſuch buboes as appear to have ariſen from an infection lately communicated, and before there is any probability that the whole ſyſtem is affected.

Such ulcers, again, are conſidered as ſymptomatic, which ariſe in conſequence of a general taint of the habit. Of this kind are all thoſe which ſucceed to old buboes, and ſuch as appear along with other

other venereal ſymptoms a conſiderable time after infection; the moſt ordinary ſituations for which are, the throat, palate, noſe, the parts immediately above the bones of the cranium, tibia, humerus, and other hard bones thinly covered with fleſh.

Although, in many caſes, it is not eaſy to make this diſtinction in venereal ſores, yet it may frequently be done, and ſhould be always ſtrictly attended to; the treatment of the two different ſpecies being in ſome reſpects exceedingly different, as will be afterwards particularly taken notice of.

In ſuch caſes, the principal means of diſtinction are obtained either by information from the patient, or from the appearances of the different ſores themſelves.

If, ſoon after expoſure to infection, an ulceration appears upon the part to which the virus was immediately applied, together with ſwellings of any of the glands in the courſe of the lymphatics, we may be almoſt convinced that theſe are only local affections, and ought to be conſidered accordingly as primary ſymptoms. Ulcerations

rations thus occurring from the immediate application of the venereal virus, are in general termed Chancres: they appear, at firſt, as ſmall miliary ſpots, which ſoon riſe and form little veſicles, that, upon burſting, diſcharge ſometimes a thin watery fluid, and, on other occaſions, a more thick yellow matter. The edges of ſuch ſores are generally hard and painful; and are, together with the glandular ſwellings already deſcribed, commonly attended with more or leſs inflammation.

Theſe are the common appearances of venereal ſores from a recent infection; but the ulcers which appear as ſymptoms of a long-continued affection, in general prove moſt troubleſome. They are diſtinguiſhed from thoſe already deſcribed, as likewiſe from every other ſpecies of ulcer, 1. By information from the patient: 2. By their ſituation: and, 3. By their appearances.

Whenever an ulcer is ſuſpected to be of a venereal kind, the real nature of it may frequently be learned from the patient. Thus, if a perſon, who has long had other

ſymptoms of infection in his conſtitution, is attacked with one or more ulcers, whether in conſequence of external injuries or not, and if they reſiſt the common methods of cure, there can be very little doubt of their being infected with the general taint of the habit.

It ſometimes happens, however, that ſuch information is not to be obtained: for patients infected with diſorders of this kind, very often conceal, and, when queſtioned, even refuſe to acknowledge it; and on other occaſions, patients cannot even themſelves be certain whether they are infected or not, having perhaps no other ſymptoms at the time than theſe ulcers, and which they may not probably have conſidered to be of the venereal kind.

When this happens to be the caſe, we muſt endeavour to obtain our information from the ſituation and appearances of the ulcer itſelf.

By far the greateſt part of venereal ulcers from an old infection, appear, as was already remarked, immediately above the bones,

bones, and ſuch of theſe eſpecially as are moſt thinly covered with muſcles. They firſt appear in the form of a red, and ſomewhat purpliſh, efflorescence, not circumſcribed, but in general rather conſiderably diffuſed. This ſoon comes to riſe into a number of very ſmall puſtules, which ooze out a thin fretting ſerum. At firſt theſe puſtules, when obſerved through a glaſs, appear perfectly diſtinct; but they at laſt run together, and form one large ulcer, whoſe edges are commonly ragged and ſomewhat callous; and there is generally a light red appearance, which extends a conſiderable ſpace beyond the ſore, over the ſkin that does not ſeem to be otherwiſe diſeaſed.

Sores of this kind have frequently a very remarkable appearance, being hollowed as it were into the form of a cup, generally narrow and contracted at the bottom, with the edges extending gradually till they reach the outward circumference. This at leaſt is commonly the caſe, except when carious bones happen

to lie at the bottom of the ſores, and then they are generally filled up with troubleſome fungous excreſcences.

Venereal ulcers are not commonly attended with much pain; at leaſt, ſeldom ſo much as from their appearances might be expected. In ſome inſtances, however, it is otherwiſe: and the diſcharge of all ſuch ſores, though at firſt thin, comes at laſt to put on a very particular and characteriſtic appearance, being of a conſiſtence rather more tough and viſcid than good pus; with a very loathſome, though not the ordinary fetid, putrid ſmell; and a very ſingular greeniſh yellow colour.

Theſe are the moſt common appearances of old venereal ulcers; and when all or any of them occur upon any of the ſituations enumerated, we may almoſt always determine, with certainty, the complaint to be of the ſyphilitic kind.

The diſtinction we have propoſed of venereal ulcers into primary and ſymptomatic, is in the treatment of the diſeaſe found to be a matter of conſiderable importance; for

for thoſe of the former kind, if attended to immediately on their firſt appearance, and before any abſorption of matter has taken place, might undoubtedly be frequently removed without the aſſiſtance of any internal medicine, merely by converting an inſipient chancre into the ſtate of a ſimple ulcer, by burning or deſtroying the venereal matter contained in it with cauſtic *.

But although a cure might in this manner be ſometimes effected with ſufficient ſafety, yet as we have no means of becoming abſolutely certain whether ſome of the virus may not have entered the ſyſtem, the cure of even the ſlighteſt chancre ſhould never be truſted to any other remedy than the internal uſe of mercury; with this material difference, however, that in incipient ſores of this kind it commonly proves ſufficient to adminiſter a very ſmall quantity of the remedy only, in proportion to what is requiſite in ſuch ulcers as appear in conſequence of an old general infection.

* Dr Monro's Prelections.

The diſtinction propoſed points out likewiſe another circumſtance of conſequence in the cure. In ulcers from an old pox, we ought never to make uſe of mercurial and other dreſſings with a view to heal and dry them up ſoon; but ſhould rather truſt entirely to mercury given internally, and in the mean time continue to apply ſuch remedies only as are neceſſary for keeping the ſores clean and eaſy.

Thus the healing of the different ulcers merely by the uſe of internal remedies, affords the beſt, and indeed the only convincing proof of the diſeaſe being eradicated; and it proves indeed the ſureſt index by which a Surgeon can be directed, as it plainly ſhows, that little more mercury can be neceſſary; a circumſtance, of which a practitioner cannot by any other means be convinced.

With many practitioners, it has been the common method to treat in this manner chancres, and all thoſe venereal ulcers we have termed Primary; whilſt, at the ſame time, they have not thought proper

to

to apply the practice to thoſe of long ſtanding, or that proceed from a general infection of the ſyſtem. But, with very little attention, it muſt appear, that directly the reverſe of this ſhould be followed; and the advantages attending it would commonly be found conſiderable.

THE reaſons for keeping old venereal ulcers open during the internal exhibition of medicines, have been already explained. But in recent chancres, produced merely by a local application of a corroding matter, as they are entirely topical, and not connected with any diſorder of the ſyſtem, mercury given inwardly has not near ſuch a chance of effecting a cure; and accordingly we often find, that, after very conſiderable quantities of the medicine have been uſed, we are at laſt, after all, obliged to have recourſe to ſome external application.

This, however, is far from being the greateſt inconvenience attending the practice: for as long as a chancre or ulceration

continues open, there is much more reaſon to ſuſpect that the ſyſtem may be generally infected, than if the chancre or ſource of that matter had been healed ſoon after its appearance.

By ſome it may be alledged, that it is not of much conſequence whether a ſmall or a larger portion of the venereal matter be taken into the ſyſtem, as the leaſt particle may juſt as certainly produce all the ſymptoms of the diſeaſe, as if a much larger quantity had been admitted.

This, in ſome reſpects, may probably be the caſe, as the ſyphilitic matter is known to be of a very penetrating and aſſimilating nature: but there is ſurely much more reaſon to hope, that a very ſmall portion of ſuch matter may be prevented from infecting the ſyſtem, either by being ſtopped in its courſe; by occaſioning, as it frequently does, obſtructions of one or more glands; or even by being afterwards thrown out at ſome of the emunctories; than that the danger of a general infection, ariſing from a conſtant abſorption and diffuſion of the ſame

ſort

ſort of matter, can by any means be obviated or removed.

That the opinion we have ventured to give on this point is at leaſt very probable, will not readily be controverted. But it is likewiſe ſaid, that the practice of treating chancres, by the uſe of internal remedies only, can never occaſion any kind of riſk, as the mercury which is, or ought always in ſuch caſes to be exhibited, by acting as a certain antidote to the venereal virus, muſt ſoon exert its influence on the ſyſtem, in ſuch a manner as to prevent the latter from having any farther influence.

Such reaſoning, however, is, in practice, by no means to be depended on. For, in the firſt place, though mercury in general proves a very certain cure for venereal complaints already ſubſiſting in the conſtitution; yet, even where it has been previouſly exhibited in conſiderable quantities, it does not prevent a new infection from taking place: Of this I have known many inſtances; and it would probably, if attended to, be found to occur very frequently.

But

But again, although we were even certain, if a proper quantity of mercury was preſent in the fluids, that no farther infection could take place from the introduction of a larger portion of venereal matter; yet, in caſes of chancre, we can never be ſure that the medicine will ſo ſoon enter the circulation as to produce this prophylactic effect. For when we conſider how frequently practitioners are diſappointed in attempting to introduce a ſufficient quantity of mercury, either from the fault of the preparation, from its running off by ſtool, from its flying too quickly to the mouth, or from ſome other cauſe, no dependence, it is evident, is to be placed upon this matter.

Upon the whole, therefore, the cure of chancres, and of all venereal ulcers of the ſame kind, ſhould be haſtened as much as poſſible, not only by internal medicines, but by external applications likewiſe.

§ 2. *Of the Cure of the Venereal Ulcer.*

THE moſt effectual method in every caſe of

of chancre, as we have already hinted, would probably be, to touch the part affected with ſome ſtrong cauſtic as ſoon as the diſeaſe is obſerved; and, by thus deſtroying at once all the venereal matter, the ſore being now nearly in the ſtate of a ſimple ulcer from any other cauſe, would, with ordinary dreſſings, be very eaſily cured. Practitioners, however, are ſeldom called in ſo early, and frequently not till the different ulcerations are conſiderably enlarged, when the practice could not readily prove effectual, and when it might ſometimes even be dangerous to apply, ſo extenſively, to thoſe tender parts on which chancres are commonly ſeated, ſuch irritating remedies as any of the more active cauſtics.

What I have generally found to anſwer in every caſe of ulcerated chancre not attended with much inflammation, is, after wiping the ſores as free from matter as poſſible, to ſprinkle them well with mercurius precipitatus ruber finely prepared, and to apply a pledgit of any common oint-

ointment over all. This does not commonly occaſion much pain or irritation; and it has the effect of producing a kind of ſlough over the ſore, which, in the courſe of a dreſſing or two, generally comes away, and leaves the ulcer perfectly clean.

Chancres being reduced to this ſtate, would probably ſoon heal, although no other dreſſing ſhould be uſed than common cerate; but, leſt any venereal matter ſhould remain, I have commonly, after removing the dreſſings with the precipitate, been in the way of uſing the ſtrong mercurial ointment of the Edinburgh Diſpenſatory, and to dreſs with it till the ſores heal up.

In this manner all ſuch ulcerations are in general eaſily cured, and with much leſs mercury given inwardly than if allowed for any conſiderable time to remain open.

By long continuance, however, and from neglect of proper remedies, even theſe, at firſt, ſeemingly ſimple ſores, come to put on all the appearances of ſuch ulcers as depend upon a general infection; and as they

they are then really ſuch in every reſpect, their treatment muſt vary accordingly.

Ulcers of this kind, upon the penis eſpecially, when of long duration, are very apt to become inflamed; and then, by the pain they occaſion, they prove frequently exceedingly troubleſome. When the inflammation comes any conſiderable length, blood-letting is ſometimes requiſite; but, in general, that ſymptom is eaſily enough kept moderate, merely by a continued and proper uſe of the ſaturnine poultice.

The inflammation being once thoroughly removed, the beſt application, in all ſuch caſes, is ſimple wax ointment, as we have formerly mentioned, till a proper quantity of mercury has been exhibited, and then the ſores commonly heal without any farther application.

There are two different modes in uſe of throwing mercury into the ſyſtem; the one by giving it internally by the mouth, and the other by introducing it into the body through the abſorbents on the ſkin by means of friction: But, as the laſt

of

of theſe methods is by much the moſt troubleſome and inconvenient, and as it does not, upon trial, appear to be attended with any ſuperior advantages, the former is now, I believe, very commonly preferred.

Various forms of mercury have been contrived for internal exhibition; but thoſe in which it has undergone no other preparation than ſimple triture, ſuch as the quickſilver pill of the Edinburgh Pharmacopœia, are, in general, the beſt. They prove commonly more effectual, and are ſeldom attended with any of the inconveniences which often occur from the uſe of the different mercurial calces.

But whatever preparation of mercury be employed, it ſhould always be continued till a ſoreneſs of the mouth be induced, that being the only certain indication of the medicine having entered the ſyſtem: and it ſhould never be carried further than is merely neceſſary to produce a moderate affection of the mouth, which is now found from experience to be productive

ductive of all the advantages, and none of the inconveniences which commonly attend a conſiderable ſalivation: it is not the quantity of ſalivary matter diſcharged that has any influence in the cure of venereal complaints, but the quantity of active mercury really introduced into the courſe of the circulation.

It is not always eaſy, however, to prevent mercury from running off too quickly by the mouth, ſo as ſometimes to occaſion very troubleſome ſalivations. To guard againſt this circumſtance by determining the medicine more particularly to the ſkin, the warm bath has been frequently recommended, both as a neceſſary preparation, and as a remedy which ought to be uſed along with the mercury. The ſame effects, we may remark, may in ſome degree be obtained, and with leſs riſk to the patient from cold, by the uſe of a flannel ſhirt next the ſkin, and by drinking plentifully of decoction of ſarſaparilla or of the woods; care at the ſame time being taken to keep the body in a proper temperature,

and

and that it be never expoſed to any conſiderable degree of cold. But whenever the warm bath can be conveniently and properly procured, it ought to be employed; for it commonly proves an uſeful aſſiſtant to a mercurial courſe: By preſerving a ſoft ſkin and a free perſpiration, it prevents the mercury from running with too much violence to the mouth; and nothing tends ſo certainly to prevent this medicine from affecting the bowels with gripes and other ſymptoms of colic.

A courſe of this kind being continued for a longer or ſhorter period, according to the degree of infection and violence of the ſymptoms, a cure of all ſuch complaints is at laſt very commonly obtained.

In ſome inſtances, however, the quickſilver pill above recommended, either does not produce all the deſired effects, or even fails altogether. On ſuch occaſions, the corroſive ſublimate is frequently found to anſwer; and may be given either in the form of pills, or in the ſpirituous ſolution: the former, however, never proves ſo nauſeous

ſeous as the latter, ſo that a larger quantity of the medicine may in that manner be commonly exhibited. The mercurius calcinatus ruber, is often found to anſwer in old venereal ſores, when the uſual forms of employing mercury have failed. In large doſes of three, four, or five grains, it operates briſkly both as an emetic and purgative: but ſmall doſes, eſpecially when conjoined with opiates, are ſeldom productive of any inconvenience; and may, in general, be continued for a conſiderable length of time, without inducing ſalivation.

In very obſtinate venereal ulcers, it becomes ſometimes neceſſary to make trial of all the variety of mercurial preparations; and, on particular occaſions, one will be found to prove very ſerviceable, though none of the others may appear to have had any influence.

The moſt certain rule for determining the quantity of the medicine to be exhibited, is, that it ſhould be always continued for ſome time after every ſymptom

of the diſeaſe has diſappeared; and that for a longer or ſhorter period, as the diſorder may have been of long or ſhort ſtanding, and as the ſymptoms may have been inveterate or otherwiſe: but this very material circumſtance in the cure of every venereal complaint, muſt be ultimately determined by the judgment of the practitioner in attendance.

Though by ſuch a courſe of mercury given inwardly, with the neceſſary external treatment formerly pointed out, almoſt every ulcer of this nature may, as was obſerved, be in general removed, yet in ſome few inſtances it is otherwiſe; and the ſores cannot be brought to heal, even tho' the mercury be continued very long after every other ſymptom has diſappeared, and when, from this circumſtance, and from the quantity of the medicine exhibited, there is every reaſon to think that the venereal taint in the ſyſtem is altogether eradicated.

As an ulcer, in this ſituation, cannot with propriety be conſidered as a venereal affection,

affection, it would be in vain to expect a cure from the uſe of any preparation of mercury whatever. Whenever ſuch ſores, therefore, ſhow a greater obſtinacy than what from their appearances might be expected, and eſpecially when they do not yield in any degree to mercury, it gives great reaſon to ſuſpect, that ſome other diſeaſe may probably have ſubſiſted in the conſtitution together with lues venerea, and that both may have had ſome ſhare in the production of the ulcers.

As ſoon as the nature of this conjoined diſorder is diſcovered, proper remedies muſt be employed in order to correct it; and this being accompliſhed, the cure of the ſores will, in general, go eaſily on.

On ſome occaſions, however, venereal ulcers prove obſtinate when the ſyſtem appears to be perfectly free from every other diſorder. In ſuch caſes, when the ſores are ſeated upon or near to any of the bones, eſpecially when fungous excreſcences ariſe, there will commonly be reaſon to ſuſpect that the cure is protracted by a

latent caries; and if this is found on examination to be the caſe, and if the patient is in other reſpects healthy, there will ſeldom be reaſon to doubt, but that, by following the directions already given reſpecting the treatment of carious bones, and by a continuance of the mercurial courſe, a cure will at laſt be effected.

In ſome inſtances, again, when there is no reaſon, from the ſituation of the ſores, to imagine that a caries can be the cauſe of their inveteracy; and although there is no appearance either of ſcrophula, ſcurvy, or of any other diſeaſe of the conſtitution; yet ſtill they go on without ſhowing any diſpoſition to heal, and perhaps even become worſe.

In ſuch caſes, when the ſyſtem is much reduced by long confinement and a tedious courſe of mercury, which frequently indeed happens when a violent ſalivation has been long kept up, the beſt and moſt effectual remedy, in general, is a light nouriſhing diet, with the aſſiſtance of freſh air and moderate exerciſe; which, by invigorating

vigorating the conſtitution, tend more certainly to promote a cure than all the medicines and applications commonly employed.

In all ſuch circumſtances, indeed, the effects of a change of this nature are often ſurpriſing; for the moſt obſtinate ulcers, which have reſiſted every uſual remedy, I have in various inſtances ſeen entirely cured, merely by ſuch means as we have now mentioned. In this ſituation of theſe ſores, too, the Peruvian bark, when taken in proper quantities, frequently proves very ſerviceable.

With reſpect to the external treatment of old ſores of this kind, as the ſloughs with which they are commonly covered render ſome degree of ſtimulus always neceſſary, common baſilicon, with a large proportion of red precipitate, anſwers for this purpoſe exceedingly well. Two drachms of the mercury to an ounce of ointment, make very good proportions, and afford one of the beſt dreſſings for every ulcer of this nature: and when, by the uſe of ſuch an

ointment, the ſloughs have all caſt off, and a diſcharge of proper matter has been induced, the treatment muſt afterwards be regulated according to the ſeveral circumſtances already pointed out in the different preceding ſections on local ulcers.

When any of the glands happen to be the ſeats of venereal ulcers, as it is always difficult to induce a kindly ſuppuration in them, it is ſometimes neceſſary, before a cure can be obtained, to deſtroy the whole, or a conſiderable portion of ſuch as are very much hardened. This is moſt conveniently and moſt eaſily done by reiterated applications of cauſtic: If the ſurface of the affected glands be rubbed over every third or fourth day with lunar cauſtic, ſo much of them as has been greatly diſeaſed, may, in this manner, be ſoon deſtroyed; and the remainder, by proper attention to every other circumſtance of the cure, being brought to furniſh healthy granulations, the ſores, without any farther difficulty, will ſoon be brought to heal.

Although,

Although, in general, by attending to all theſe different circumſtances as appearances may indicate, almoſt every ulcer of the venereal kind may at laſt be removed; yet, in long habitual and reiterated poxes, which have never been properly cured, the whole frame comes to be ſo contaminated with the infection, as, in ſome inſtances, to produce ſuch an inveteracy in ulcers, as does indeed baffle all the efforts both of nature and art, and at laſt carries off the patients in very great miſery. Some ſuch inſtances I have ſeen in different hoſpitals, where probably ſuch very obſtinate caſes are only met with.

SECTION XI.

Obſervations on the Scorbutic Ulcer.

§ 1. *General Remarks on Scurvy.*

IT was remarked in a former ſection, that, under the appellation of Scorbutic Ulcer, there have in general been ranked a great many of thoſe eruptive diſeaſes to which the ſkin is liable, as the itch, ſeveral ſpecies of lepra, &c. But the real nature of true ſcurvy being now much better underſtood, and it being known that no ſuch ſymptoms as eruptions of that kind ever occur in it, the impropriety either of applying the term Scorbutic to ſuch, or of treating them as ſymptoms of that diſeaſe, muſt appear exceedingly evident.

We

We have already remarked, that ulcers which proceed from any of the above mentioned eruptive diſorders, are probably connected with a very oppoſite ſtate of the ſyſtem to that which takes place in thoſe really ſcorbutic: The former generally, if not always, we ſuppoſe to depend upon an inflammatory diatheſis; whereas, in true ſcurvy, the fluids arrive at probably the higheſt degree of diſſolution and putrefaction of which in the living body they are ſuſceptible. We know that doubts have been entertained of this point; but they will not be readily admitted by thoſe who have had opportunities of attending caſes of real ſcurvy.

From the writings of ſeveral old authors, it appears, that ſcurvy was a well-known diſorder ſome ages ago; but the true cauſes, ſymptoms, and method of treatment of the diſeaſe, were never very accurately underſtood till Dr Lind's publication on the ſubject appeared.

The ſeveral ſpecies of ſcurvy enumerated by authors, viz. the Muriatic, the Alkaline, &c. ſo named from the nature of the

the cauſes ſuppoſed to produce them, are now known to be very falſe and improper diſtinctions; the true ſcurvy being always of the ſame nature, and always produced by the ſame cauſes, wherever theſe occur, in whatever climate, and whether at ſea or land.

§ 2. *Symptoms and Cauſes of the Scorbutic Ulcer.*

AMONG other ſymptoms of ſcurvy enumerated by Dr Lind in his ingenious treatiſe on this ſubject, the ulcers which are ſo common in that diſeaſe are particularly deſcribed; and as he gives a very clear and diſtinct idea of them; we ſhall here tranſcribe verbatim the Doctor's deſcription of them.

"The diſtinguiſhing characteriſtics of ſcorbutic ulcers are as follow: They afford no good digeſtion; but a thin fetid ſanious ſtuff, mixed with blood; which at length has the true appearance of coagulated gore lying caked on the ſurface of the ulcer, and

and is with great difficulty wiped off or ſeparated from the parts below.

"The fleſh underneath theſe ſloughs feels to the probe ſoft or ſpongy, and is very putrid. No detergents or eſcharotics are here of any ſervice; for though ſuch ſloughs be with great pains taken away, they are found again at next dreſſing, where the ſame ſanguinious putrid appearance always preſents itſelf: Their edges are generally of a livid colour, and puffed up with excreſcences of proud fleſh ariſing from below under the ſkin.

"When too tight a compreſſion is made in order to keep the fungus from riſing, they are apt to leave a gangrenous diſpoſition; and the member never fails to become œdematous, painful, and for the moſt part ſpotted.

"As the diſeaſe increaſes, they at length come to ſhoot out a ſoft bloody fungus, which the ſailors expreſs by the name of Bullock's Liver; and indeed it has a near reſemblance to that ſubſtance when boiled, both in colour and conſiſtence. It often

riſes

riſes in a night's time to a monſtrous ſize; and, although deſtroyed by cauteries, actual or potential, or cut ſmooth with a biſtoury, in which caſe a plentiful hæmorrhagy generally enſues, it is found at next dreſſing as large as ever. They continue, however, in this condition a conſiderable time, without affecting the bones.

"The ſlighteſt bruiſes and wounds of ſcorbutic perſons degenerate into ſuch ulcers: Their appearance, on whatever part of the body, is ſo ſingular and uniform; and they are ſo eaſily diſtinguiſhed from all others, by being ſo remarkably putrid, bloody, and fungous; that we cannot here but take notice of the impropriety of referring moſt of the inveterate and obſtinate ulcers in the legs, with very different appearances, to the ſcurvy *."

This accurate deſcription of the ſcorbutic ulcer comprehends almoſt the whole appearances ever obſerved in ſuch affections. Only it may be remarked, that at land, unleſs in very particular ſituations, and

* See Lind's Treatiſe on the Scurvy.

and from a conſtant expoſure to all the more active cauſes of ſcurvy, ſuch inveteracy as is deſcribed by Dr Lind is not often met with: But in every country, and none, perhaps, more frequently than in ſome parts of this kingdom, ſlighter degrees of the ſame kinds of ſores very often occur, forming what by practitioners in general are termed Foul or Malignant Ulcers.

In the Royal Infirmary of this place, ſores of this kind are frequently met with, accompanied ſometimes with even the moſt characteriſtic ſymptom of ſcurvy, ſoft ſpongy gums. In the worſt caſes, however, that I ever met with here, there never was the appearance of ſuch a high degree of putreſcency in the ſyſtem as we are told happens frequently in long voyages at ſea.

The reaſon of this may be, that ſuch complaints of the ſcorbutic kind as occur in this country, appear generally among the loweſt claſs of people, and proceed rather from the want of a ſufficient ſupply of food,

than

than from confinement to any one kind that can be at all conſidered as particularly ſeptic, or as prediſpoſing to ſcurvy.

In ſuch patients, the putrid diatheſis ſeldom ever prevails to ſuch a degree as to produce ulcers in parts previouſly ſound; but it never fails to ſhow itſelf in ulcers either already formed, or in ſuch wounds as happen to be inflicted while ſuch a ſtate of the fluids ſubſiſts. Indeed very many of the ulcers upon the legs, and other parts of the generality of our poor people, frequently partake, more or leſs, of the real ſcorbutic taint; as is evident both from their appearances, cauſes, and particularly from the method of cure that is found to ſucceed beſt; a good nouriſhing diet contributing more towards a cure, than all the applications uſually employed.

The immediate or proximate cauſe of ſuch ulcers, as of every other ſcorbutic ſymptom may be referred to a certain degree of putreſcency in the fluids; which again may be induced by a variety of cauſes, but of which the moſt material are,

are, living conſtantly upon ſalt proviſions; a total want of vegetables; with expoſure to a cold moiſt atmoſphere. Many other exciting cauſes of the diſorder might be mentioned; but as this would lead to a more extenſive diſcuſſion of the ſubject than is here intended, for farther information, Dr Lind, Sir John Pringle, Huxham, and other authors who treat more directly on the ſubject, may be conſulted.

§ 3. *Of the Cure of the Scorbutic Ulcer.*

THE cure of ſcorbutic ulcers, it is evident, muſt depend much upon the correction of the putrid diatheſis in the ſyſtem; for which purpoſe vegetables of all kinds, but eſpecially thoſe of an aceſcent nature, with milk and whey, are found to be almoſt certain remedies. The different ſecretions, eſpecially thoſe by the ſkin and kidneys, ſhould be gently promoted: and as the former in a particular manner is almoſt entirely obſtructed in every caſe of ſcurvy, the reſtoring of a due perſpiration is found to have a conſiderable influence in

in the cure; probably by carrying off many of the putrid particles with which the fluids in ſuch caſes always abound. Gentle laxatives too, for the ſame reaſons, are of uſe; and, as ſuch, Tamarinds and Cream of Tartar with Manna anſwer well.

Theſe, together with a total abſtinence from ſalted food, and a proper attention to avoid all the other exciting cauſes of the diſeaſe, very commonly effect a cure of every ſcorbutic ſymptom, and among others, of ſuch ulcers; the beſt external applications for which are antiſeptics of the moſt powerful kinds. Lind recommends Unguentum Ægyptiacum, and Mel Roſarum acidulated with Spiritus Vitrioli.

Theſe in general are the remedies found moſt effectual, and which are commonly employed in very bad caſes of ſcurvy; but in ſuch putrid ulcers as occur moſt frequently in this country, the ſeptic ſtate of the fluids, as we have obſerved above, ſeldom advances to ſuch a high degree, as to render it particularly neceſſary to confine pa-

patients to what may properly be called an antiſcorbutic courſe.

The common malignant or ſcorbutic ulcer of this climate ſeeming, as was already remarked, to proceed more frequently from a real deficiency of food, than from any other circumſtance; putting the patients by degrees upon a full allowance, with a daily, though moderate, proportion of ſome generous wine, has always a powerful effect in promoting their recovery.

This, we muſt obſerve, is a point of more importance in the treatment of theſe ulcers than is commonly imagined, and the attention of practitioners ought to be more directed to it than is generally the caſe. Inſtead of preſcribing medicines for the cure of ſuch ulcers, much more advantage would be derived from a well-regulated nouriſhing diet; and eſpecially when to this is conjoined, as we have ſaid, a moderate proportion of wine, or, what I have frequently imagined has anſwered better, a proper allowance of porter or ſtrong beer. The foul old ulcers of poor people

in every country are moſt frequently induced by indigence, and are kept up by a real want of nouriſhment. In all ſuch caſes, therefore, the practice of hoſpitals would probably prove more beneficial, by laying the uſe of internal medicines almoſt totally aſide; and by employing the ſavings thus produced, in furniſhing ſuch a diet as we have been here recommending.

The Jeſuits bark, however, is a remedy which, in ulcers of this kind, proves frequently uſeful: it commonly indeed proves more ſerviceable here than in any other ſpecies of ſore. When given in proper quantities, which are always to be determined by the ſtate of the ſtomach, it ſeldom fails of producing, in the courſe of a few days, a conſiderable change for the better. For ſuch ſcorbutic ulcers as occur in this country, the bark indeed is almoſt the only internal medicine that is ever neceſſary.

With reſpect to the uſe of mercury in theſe kind of ſores, it ought always to be kept

kept in view, that in ulcers really ſcorbutic, inſtead of acting as a remedy, if given in any conſiderable quantities, it proves always extremely hurtful. Lind, from a great deal of experience, ſays, with reſpect to this point: "Mercury, in a truly ſcorbu-"tic ulcer, is the moſt pernicious medicine "that can be uſed *." So that a proper diſtinction between ſores of this nature, and the ſeveral eruptive diſorders commonly termed Scorbutic, appears in the treatment to be a matter of conſiderable importance: in the latter, mercury may not only be generally given with impunity, but in ſome inſtances with advantage; whereas, in the former, it can never be adminiſtered but with very great hazard.

Peruvian bark, as an external application, too, anſwers exceedingly well in all ſuch ulcers; pledgits dipped in a ſtrong decoction of it, and applied to the ſores, have generally a conſiderable effect in correcting the fetor and putreſcency of the diſcharge: But the beſt application for that purpoſe,

* Vide Treatiſe on the Scurvy, Part II. chap. ii.

in theſe ulcers, is the carrot poultice, which when conjoined with the internal uſe of bark, and a proper regimen, in the courſe of a ſhort time, generally corrects the putreſcency which prevails, ſo effectually, that the ſores being dreſſed for a few days longer with pledgits of baſilicon and red precipitate, with a view to procure the removal of any ſloughs that remain, a cure is afterwards commonly eaſily obtained, merely by attending to the directions formerly laid down for the management of ulcers in general, and particularly to the introduction of an iſſue, along with moderate compreſſion by means of a roller.

What has hitherto been ſaid with regard to the treatment of ſcorbutic ulcers, applies, in a great meaſure, with equal propriety, to all ſuch ſores as are in the leaſt connected with a putreſcency of the fluids, from whatever cauſes this may have been induced. Thus, ſuch ſores, as remain after critical abſceſſes that ſucceed to putrid fevers, require the ſame general method of treatment: and the ſame may very probably

bly be found to be the moſt effectual in thoſe produced by peſtilential diſorders; though, as I never had an opportunity of ſeeing the real plague, I cannot from experience venture to aſſert it.

SECTION XII.

Obſervations on the Scrophulous Ulcer.

§ 1. *Of the Symptoms and Cauſes of the Scrophulous Ulcer.*

BY ſcrophulous ulcers, are meant thoſe ſores which remain after the opening or burſting of ſuch ſwellings as appear in different parts of the body as ſymptoms of the ſcrophula or evil.

From the frequent occurrence of ſcrophula, it is ſuch a well known diſeaſe, that it is almoſt unneceſſary here to give any de-

deſcription of it. It begins with indolent, ſomewhat hard, colourleſs tumors; which at firſt chiefly affect the conglobate glands of the neck; but, in proceſs of time, the cellular ſubſtance, ligaments of the joints, and even the bones themſelves, come to ſuffer.

In ſcrophula, the ſwellings are much more moveable than thoſe of the ſcirrhous kind; they are generally ſofter, and ſeldom attended with much pain: They are tedious in coming to ſuppuration; are very apt to diſappear ſuddenly, and again to riſe in ſome other part of the body. We may likewiſe mention, as characteriſtic circumſtances of this diſeaſe, a remarkable ſoftneſs of the ſkin, a kind of fulneſs of the face, with generally large eyes, and a very delicate complexion.

Ulcers which appear in ſcrophula ſeldom yield a good diſcharge; affording, upon their firſt appearance, a viſcid, glairy, and ſometimes a whitiſh curdled matter, that afterwards changes into a more thin watery ſanies. The edges of the ſores are fre-

frequently, though not always, painful; and are conſtantly very much raiſed or tumefied. As long as the ſcrophulous diatheſis ſubſiſts in the conſtitution, ſuch ulcers very often remain for a great length of time, without ſhowing any diſpoſition either to heal or to turn worſe; at other times they heal very quickly, and again break out in ſome other part of the body.

A variety of cauſes have been mentioned as tending to produce ſcrophula; namely, a crude indigeſtible food; bad water; living in damp low ſituations; its being an hereditary diſeaſe, and in ſome countries endemic.

Many other cauſes, too, have been enumerated by authors; but we cannot propoſe to enter into a full conſideration of them here. This, however, may be obſerved, that whatever may, in different circumſtances, be the exciting, or prediſpoſing cauſes of ſcrophula, the diſeaſe itſelf either depends upon, or is at leaſt much connected with, a debility of the conſtitution in general, and probably of the lymphatic ſy-

ſtem in particular; the complaint always firſt ſhewing itſelf by ſome affections of the latter. And that debility has at leaſt a conſiderable influence in its production, is probable, not only from the evident nature of many of the cauſes which are known to be productive of ſcrophula, but likewiſe from ſuch remedies as are found to prove moſt ſerviceable in the cure, which are all of a tonic invigorating nature.

§ 2. *Of the Cure of the Scrophulous Ulcer.*

It was long ſuppoſed, that ſcrophula depended upon an acid acrimony of the fluids; and this, it is probable, gave riſe to the uſe of burnt ſponge, different kinds of ſoap, and other alkaline ſubſtances, as being the beſt correctors of acidity. But although a ſourneſs of the ſtomach and primæ viæ is a frequent ſymptom in ſcrophula; yet this ought not by any means to be imputed to a general aceſcency of the fluids, but merely to that relaxation which ſo univerſally prevails in this diſeaſe, and this eſpecially as it often occurs in other diſeaſes where

where no ſuch acrimony has been ever ſuſpected.

There is another circumſtance, too, which renders it ſtill more probable that no kind of acrimony whatever exiſts in ſcrophula, namely, the very long continuance of matter collected in the different ſwellings which occur in this diſeaſe, without occaſioning either much pain, or ſhowing any tendency to corrode the ſurrounding parts; there being many inſtances of ſuch collections ſubſiſting, even for years, without exciting any kind of uneaſineſs: And in fact, the ſeveral remedies recommended for the correction of ſuch an acrimony as has been ſuppoſed to exiſt in ſcrophulous complaints, never have, at leaſt ſo far as I have ſeen, any influence in the cure.

Gentle mercurials are ſometimes of uſe, as reſolvents, in ſcrophulous ſwellings; but nothing has ever ſuch a conſiderable influence as a frequent and copious uſe of Peruvian bark. Chalybeate and ſulphureous waters, too, have frequently proved ſerviceable

viceable in ſcrophula; and a long and continued uſe of mild aperients of the ſaline kind has likewiſe had ſome influence in reſolving ſuch tumors as occur in it. Cold bathing, too, eſpecially in the ſea, together with frequent moderate exerciſe, is often of ſingular ſervice; as is likewiſe change of air, particularly to a dry climate.

With reſpect to the treatment of ſcrophulous ulcers, as long as the general morbid diatheſis continues in the ſyſtem, it is commonly in vain to attempt their cure: Nor would it, indeed, be always ſafe; as the ſores, when dried up in one part, very commonly break out ſomewhere elſe; and they juſt as readily fall upon the lungs, or ſome organ eſſential to life, as on any other part.

Such inſtances, indeed, are very frequently met with, whether the ſores heal up naturally or by the aſſiſtance of art: We ſhould therefore be very cautious in the application either of repellent or of drying remedies; and ſhould chiefly endeavour to correct the general diſeaſe of the

the habit, by the uſe of ſuch ſtrengthening remedies as are commonly found to prove moſt uſeful.

Till the diſeaſe is eradicated from the habit, all that ſhould in general be done to the ſores, is to give as free and open vents to the matter as poſſible, ſo as to prevent effectually the formation of ſinuſes.

The beſt applications for ſcrophulous ulcers, are the different ſaturnine preparations: of which the watery ſolution of Saccharum Saturni, Goulard's Cerate, and Unguentum Saturninum, anſwer exceedingly well; for they tend greatly to prevent the ſpreading of ſcrophulous ſores, which is otherwiſe very apt to occur, and to remove that inflammatory complexion which they ſo frequently put on when relaxing applications are much employed.

A continuation of ſuch ſimple dreſſings as theſe we have recommended, is all that, in general, ſhould be attempted, ſo long as any diſorder of the conſtitution is found to remain. But, in ſome caſes, the ulcers become ſwelled and painful; they diſ-

charge

charge an acrid and corroſive matter; and grow otherwiſe ſo inveterate, as to render other reſources neceſſary.

When theſe circumſtances occur, a carious bone may frequently be ſuſpected to be at the bottom of the ſore; and then nature muſt be aſſiſted, as much as poſſible, in throwing off ſuch parts of it as are moſt diſeaſed, and that are become looſe. This, in many ſituations, may be eaſily done: but when the complaint fixes on any of the large joints, art can ſeldom afford much aſſiſtance; and as amputation of the member is not, in theſe circumſtances, always adviſeable, from the great riſk of the diſeaſe returning in ſome other part, nature alone muſt generally be truſted to for a cure.

In ſuch a ſituation, therefore, as no operation can be expected to contribute much to the removal of the diſorder, the moſt effectual means ſhould be adopted for aſſiſting nature in getting the better of it. With this view, a continued uſe of ſea-bathing often proves very ſerviceable: but this remedy,

medy, in order to have any conſiderable effect, ſhould be continued, with proper intervals, for a number of years, inſtead of a few weeks annually, which is all that is commonly thought neceſſary.

The bark, as formerly directed, ſhould ſtill be continued; and I have ſometimes obſerved very good effects from a conjunction of it with cicuta, particularly in procuring a proper diſcharge from ſcrophulous ſores.

When, in courſe of time, and by proper attention to the different circumſtances we have mentioned, there is reaſon, from the ſores ſhowing a tendency to heal, to hope that the general morbid diſpoſition of the ſyſtem is pretty much eradicated, nature is always greatly aſſiſted in the cure, and that too is rendered much more ſafe, by the introduction of an iſſue ſomewhat proportioned to the diſcharge yielded by the different ſores, and which, when the ulcers have been of long duration, ſhould certainly be continued for life.

Gentle compreſſion has, in the ſeveral preceding

preceding ſections, been recommended for different kinds of ulcers; but in no ſpecies of ſore is it either ſo evidently indicated, or of ſo much real utility, as in ſcrophulous ulcers: in which that ſwelling and tumefaction, which frequently raiſe their edges to very conſiderable heights, often prove a greater hindrance to the cure than any other circumſtance; and which, when no conſiderable inflammation occurs, may always, by gentle compreſſion, be eaſily and ſafely removed.

Such, in general, is the treatment which anſwers beſt in ſcrophulous ulcers: but as the ſcrophula is one of thoſe diſeaſes for which art has not as yet diſcovered any effectual remedy, I have not attempted more than to point out as conciſely as poſſible thoſe means by which nature is beſt aſſiſted in her efforts towards a cure.

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SECTION XIII.

General Corollaries relating to the Management of Ulcers.

HAVING endeavoured, in the preceding ſections, to inveſtigate every point of importance relating to the different ſpecies of ulcers, it will not in this place be conſidered as improper, our exhibiting, by way of concluſion, ſuch general corollaries as naturally reſult from what has been ſaid.

1. It appears, that, except in a few inſtances, namely, in Lues Venerea, Scrophula, and Scurvy, that ulcers are always to be conſidered merely as local affections.

2. That, excepting in one or other of the abovementioned diſorders, the varieties in the matters diſcharged by ulcers depend

pend always on ſome particular affection of the ſolids in the part diſeaſed, and not on any morbid ſtate of the blood or other fluids.

3. That ulcers appear to be uſeful or prejudicial to the conſtitution, not by the quality of the matter afforded by them, but by the quantity: And accordingly, that the cure of even the oldeſt ſore is rendered perfectly ſafe by the introduction and preſervation of ſuch an iſſue as will yield the ſame quantity of fluids which the ſyſtem has, by means of the ulcer, been accuſtomed to throw off.

4. That, in the cure of ulcers, the firſt circumſtance to be determined, is, whether they are to be conſidered as general or topical complaints. If they appear to be of the former kind, ſuch remedies muſt be adminiſtered as are known to be moſt effectual for the correction of the diſeaſe with which they happen to be connected; in other reſpects, the treatment of ſuch ſores is nearly the ſame with thoſe originally of an unmixed ſimple nature.

5. That

5. That, in the topical treatment of ulcers of every kind, the principal object to be kept in view, is, to reduce them as nearly as poſſible to the ſtate of ſimple purulent ſores; for which purpoſe the different remedies have been pointed out in the ſeveral preceding ſections.

6. That when ulcers are once reduced to the ſimple ſtate above-mentioned, their farther treatment, in general, becomes a very eaſy matter; as the cure is then to be entirely effected by a proper attention to the three following circumſtances.

1ſt, To the introduction of an iſſue, as was lately obſerved, of ſuch a ſize as may carry off nearly the ſame quantity of fluids which the ſyſtem has, by means of the ſore, been accuſtomed to throw off.

2d, To the preſervation of the matter in a purulent form, the ſeveral means for which have been already fully pointed out; but the principal of theſe, it may be remarked, are, The avoiding every kind of irritation, by uſing the mildeſt dreſſings only; and preſerving, in the parts affected, a proper degree of heat.

3d, To the application of gentle compreſſion, not only upon the ulcer itſelf, but on the neighbouring ſound parts alſo.

We have taken various opportunities, in the courſe of this work, to recommend the application of preſſure in the cure of ulcers. In addition to what we have already ſaid upon this point, we think it neceſſary to obſerve, that this remedy is not as yet ſufficiently known, otherwiſe it would be more generally employed. Thoſe who have not ſeen it uſed, would ſcarcely give credit to the accounts we could give of its univerſal utility in the cure of ſores; but from much experience of its effects in almoſt every ſpecies of ſore, we can venture to aſſert, that thoſe who have not employed it, have deprived their patients of the moſt powerful application which has hitherto been invented for the cure of ulcers.

Theſe are, in ſhort, the principal circumſtances to be kept in view in the management of ulcers; and which, in different parts of the preceding ſections, have been more fully explained.

CHI-

CHIRURGICAL ESSAYS.

PART III.

Obſervations on WHITE SWELLINGS of the JOINTS.

SECTION I.

Of the Symptoms and Cauſes of White Swellings.

§ 1. *General Remarks on White Swellings.*

THERE are not, probably, many diſorders to which the human body is liable, which prove either of worſe conſequences to patients, or that are leſs underſtood

derſtood by practitioners, than white ſwellings of the joints; inſomuch that, whenever the diſeaſe is thoroughly formed, it is in general conſidered as incurable.

This ought certainly to be a very ſtrong inducement with every practitioner for carrying his reſearches with reſpect to it as far as poſſible; and will, it is hoped, be a ſufficient apology for the following obſervations; which, merely by pointing out defects, although no material improvement ſhould be ſuggeſted, may excite others to more ſucceſsful inquiries. If this ſhould, in any degree, be the reſult of the following remarks, I ſhall always conſider the time beſtowed on them as having been uſefully employed.

The term White Swelling has commonly been applied to ſuch enlargements of the joints as are not attended with external inflammation or diſcolouration of the ſkin and common teguments; the only ſymptoms which at firſt commonly take place, being a greater or leſs degree of ſwelling, with a deep-ſeated pain. In the progreſs of the diſeaſe, indeed, the whole

whole ſurrounding parts come to be ſo much affected, that inflammation is at laſt communicated to the ſkin itſelf; and when this terminates in abſceſſes and conſequent ulcerations, it is not at all uncommon to find a great many openings ſurrounding the whole joints that are ſo diſeaſed.

Though there are, by different writers, ſeveral detached obſervations upon this complaint*; yet no regular account has ever been given of it, farther than what may be met with in general diſſertations on diſeaſes of the bones, which have always been conſidered as the principal ſeat of ſuch diſorders.

§ 2. *Different Species of White Swellings.*

THERE ſeem evidently to be two different ſpecies of white ſwellings, entirely

 diſtinct

* See Monro's Works, 4to, Edin. 1781, p. 460. and a paper by Dr Simpſon in Vol. IV. of Edinburgh Medical Eſſays.—See alſo a paper on this ſubject, inſerted in a Collection of Pathological Inquiries and Obſervations in Surgery, by Richard Brown Cheſton, Surgeon to the Gloceſter Infirmary.

diſtinct from one another; and as the one is of a much milder nature than the other, and very frequently admits of palliation, and ſometimes even of complete cures, which the other never does, it would ſeem to be a matter of importance ſo to characteriſe the different varieties, that the one may be eaſily and certainly diſtinguiſhed from the other.

In this, however, as in many other diſeaſes, the complaint has frequently been of conſiderable ſtanding before practitioners are called in: So that although, if ſeen from the beginning, and through all its different ſtages, it might generally be eaſily enough known of what particular nature the diſorder in reality is; yet, when it is far advanced, and when an exact hiſtory of the ſymptoms cannot be obtained from patients themſelves, it is often impoſſible to make any accurate or certain diſtinction; the ſymptoms of both ſpecies being in the latter ſtages of the diſeaſe commonly very ſimilar.

When this, however, is not the caſe, and a practitioner is called in before the ſymptoms

toms have made any great progreſs, he may commonly, with a little attention, form almoſt a certain judgment of the nature of the complaint. And, as I have had many opportunities of ſeeing every ſpecies of the diſorder, in all its ſtages, I propoſe, firſt, To give as exact an account as poſſible of the riſe and progreſs of the different ſymptoms in each ſpecies; then to mention the ſeveral appearances of the joints, which in each of them are obſerved on diſſection, with the moſt common exciting and prediſpoſing cauſes of the diſorder; and, laſtly, I ſhall enumerate the different remedies that I have known uſed for it, with their ſeveral effects.

Swellings of this nature, it may be remarked, occur in every joint of the body; but much more frequently in the large than in the ſmaller joints: Thus, at leaſt, twice as many are met with in the knee and ancle joints, as in all the reſt of the body beſides.

§ 3. *Of the Symptoms of the firſt, or Rheumatic Species of White Swelling.*

THE firſt, and what may be conſidered

as the moſt ſimple, ſpecies of the diſeaſe, begins with an acute pain, which ſeems to be diffuſed over the whole joint, and frequently even extends along the tendinous aponeurotic expanſions of ſuch muſcles as are connected with it. There is, from the beginning, an uniform ſwelling of the whole ſurrounding teguments, which in different patients is in very different degrees; but it is always ſo conſiderable as to occaſion an evident difference in point of ſize between the diſeaſed and ſound joint of the oppoſite ſide: A conſiderable tenſion generally prevails; but there is ſeldom, in this period of the diſorder, any external diſcolouration.

The patient, from the commencement of the diſeaſe, ſuffers much pain from the motion of the joint; and always finding it eaſieſt in a relaxed poſture, keeps it accordingly conſtantly bent; which generally in every ſituation, but more eſpecially in the knee, produces a ſtiffneſs or kind of rigidity in all the flexor tendons of the limb.

This rigidity of the tendons has by many

many been conſidered as an original ſymptom of the diſorder; but when duly attended to, it will always be found to be rather a conſequence of the diſeaſe, and to have ariſen from the above-mentioned cauſe. In conſequence, too, of the total want of motion, which from this circumſtance is always produced, ſuch joints in a very ſhort time generally become quite ſtiff and immoveable, and ſeem frequently to be in a ſtate of complete and real anchyloſes.

If the diſorder, either by nature or by the effects of proper remedies, is not now carried off, the ſwelling, which originally was not perhaps very conſiderable, begins gradually to augment, and goes on till it ſometimes increaſes to twice, or even thrice the natural ſize of the part.

The cuticular veins become turgid and varicoſe; the limb below the ſwelling decays conſiderably in its fleſhy muſcular ſubſtance, at the ſame time that it frequently acquires an equality in point of thickneſs, by becoming œdematous; the pain turns more intolerable, eſpecially when

when the patient is warm in bed or is otherwiſe heated; and abſceſſes form in different parts of the ſwelling, and run in all different directions, whilſt at the ſame time they frequently do not appear to communicate with one another.

In all theſe abſceſſes, a fluctuation of a fluid, upon preſſure, is generally evident, as is the caſe in every collection of matter not very deep ſeated; but, independently of the fluctuation, all ſuch ſwellings afford a very peculiar elaſtic feel; yielding to preſſure, at the ſame time that they do not, like œdematous ſwellings, retain the mark, but inſtantly riſe again as ſoon as the preſſure is removed.

Theſe different collections, either upon breaking of themſelves, or on being laid open, diſcharge conſiderable quantities of matter, which at firſt is generally purulent, and of a pretty good conſiſtence: it ſoon, however, degenerates into a thin fetid ill-digeſted ſanies; and has never, at leaſt in proportion to the quantity diſcharged, any remarkable influence in reducing the ſize of the ſwellings, which

ſtill

ſtill retain nearly their former dimenſions.

If the orifices from whence ſuch matters flow are not by art kept open, they very ſoon heal up; and new collections forming in different parts, again break out and heal as before: So that, in long-continued diſorders of this kind, the whole ſurrounding teguments are often entirely covered with cicatrices that remain after ſuch ulcers.

Long before the diſorder has arrived at this ſtate, the patient's health has generally ſuffered conſiderably; firſt, from the violence of the pain, which is often ſo great, as to take away entirely both ſleep and appetite; and then, from the abſorption of matter into the ſyſtem, which always takes place in ſome degree from its firſt formation in the different abſceſſes; but which, indeed, never appears ſo evidently, till the ſeveral collections either burſt of themſelves or are by inciſion laid open; when a quick pulſe, night-ſweats, and a weakening diarrhœa, always certainly occur; and generally, at laſt, carry off the patient,

patient, if the member be not amputated, or if a cure of the diſorder be not otherwiſe effected.

Theſe are the ſeveral ſymptoms of this ſpecies of white ſwelling, in all its different ſtages. We ſhall now, as was propoſed, enumerate the appearances which in general are obſerved on diſſecting ſuch ſwelled joints after amputation of the member.

§ 4. *Appearances obſerved on Diſſection, in the Rheumatic Species of White Swelling.*

In ſome caſes, the pain, even in this ſpecies of the complaint, is from the beginning ſo violent, that practitioners are led at once to conclude it to be of the worſt and moſt incurable kind: And patients, rather than ſuffer a long continuance of ſuch a torment, as it is often attended with, and after all remain uncertain whether a cure is to be obtained, frequently prefer the immediate amputation of the member.

Several ſuch inſtances I have ſeen, where the operation has been performed in very early periods of the diſorder. In all of theſe,

theſe, the only preternatural affection obſerved on laying open the ſwellings, was, a conſiderable morbid thickneſs of the ſurrounding ligaments, without any diſeaſe of the joint whatever; the bones and cartilages always remaining perfectly ſound, and the ſynovia in a natural condition both as to quantity and conſiſtence.

This thickening of the ligaments, tho' in general it appears in a greater or leſs degree according as the complaint has been of longer or ſhorter duration, yet we do not find that it always does ſo; for in ſome recent inſtances, the ligaments have appeared more diſeaſed than in others where the diſorder had continued longer: In the former, indeed, the ſymptoms were always found to have been very violent.

In the more advanced ſtages of the diſorder, when abſceſſes have formed in different parts; when the pain has been long very violent, with great addition of ſwelling; on laying open the parts, the thickening of the ligaments is then found to be more conſiderable, and is generally, if not always, attended with an effuſion, into the ſur-

ſurrounding cellular ſubſtance, of a thick glairy matter, which appears to be the cauſe of that elaſtic feel peculiar to ſuch ſwellings formerly taken notice of in the deſcription.

The different abſceſſes or collections of matter are found to run in various directions through this glairy albuminous congeſtion, without, however, ſeeming to mix with it. In ſome few inſtances, again, together with collections of pus, a great many ſmall hydatides are obſerved; and in the farther progreſs of the diſorder, all theſe together form ſuch a confuſed maſs of different matters and ſubſtances, that it is almoſt impoſſible, by diſſection, to procure a more diſtinct view of them, than what preſents itſelf on their firſt being laid open.

Even all theſe appearances I have met with, without any affection of the bones of the joint; which, together with the ſurrounding cartilages, upon cutting thro' the capſular ligaments, remained perfectly ſound.

When, however, by a very long continuance

nuance of the complaint, theſe ligaments come to be corroded by the different collections of matter, the cartilages, and in conſequence the bones, are very ſoon brought to ſuffer; the latter becoming carious, as ſoon as the former, by the acrimony of the matter, have been abraded.

The tendons of the flexor muſcles, which are always in this diſeaſe, as was already mentioned, very ſtiff and much contracted, do not, upon diſſection, exhibit any evidently morbid appearances, either with reſpect to hardneſs or enlargement. We ſhall now, as was propoſed, give a deſcription of the other ſpecies of the diſorder.

§ 5. *Of the Symptoms of the more inveterate or Scrophulous Species of White Swelling.*

In this ſpecies of the diſeaſe, the pain is generally more acute than in the other; and, inſtead of being diffuſed, it is more confined to a particular ſpot, moſt frequently to the very middle of the joint.

In

In ſome inſtances I have known the patients ſay, they could cover the whole pained part with a crown-piece or leſs.

The ſwelling is at firſt commonly very inconſiderable; in ſo much that, on ſome occaſions, even when the pain has been very violent, little difference, in point of ſize, could be obſerved between the diſeaſed joint and the oppoſite ſound one.

In this, as in the other ſpecies of the diſeaſe, the leaſt degree of motion always gives very great pain: ſo that the joint being here too conſtantly kept in a bent poſition, ſtiffneſs and rigidity of the tendons come likewiſe ſoon to be produced.

As the diſorder advances, the pain turns more violent, and the ſwelling becomes more conſiderable, with an evident enlargement of the ends of ſuch bones as compoſe the joints.

In proceſs of time, the tumor acquires that elaſtic feel formerly taken notice of, varicoſe veins appear over its ſurface, and collections of matter occur in different parts of it: Theſe, upon burſting or being laid open,

open, diſcharge conſiderable quantities ſometimes of a purulent-like matter, but moſt frequently of a thin fetid ſanies; and if a probe be introduced, and can be paſſed to the bottom of the ſores, the bones are found carious, and pieces of them are often diſcharged at the openings.

On the farther continuance of the diſorder, the conſtitution comes here likewiſe to ſuffer as in the firſt ſpecies of the diſeaſe; and a diarrhœa with night-ſweats commencing, the patient, though naturally perhaps of the fulleſt habit, is reduced by loſs of fleſh to the moſt extreme weakneſs.

§ 6. *Appearances obſerved on Diſſection, in the Scrophulous Species of White Swelling.*

When ſuch joints are diſſected, either after death, or after amputation of the member in the firſt ſtages of the diſorder, the ſoft parts ſeem to be very little affected: but in all, even the ſlighteſt that I had ever an opportunity of ſeeing, there was conſtantly obſerved, an enlargement either of the whole ends of the bones, or of their

epiphyſes; frequently of thoſe on one ſide of the joint only; in others, again, the bones on both ſides have been affected.

This enlargement ſometimes occurs without any other evident diſeaſe: but in general, and always in a more advanced ſtate of the complaint, the ſoft ſpongy parts of ſuch bones are found to be diſſolved into a thin, fluid, fetid matter; and that too, in ſome caſes, without the cartilages which ſurround them ſeeming to be much affected. In proceſs of time, however, the cartilages come likewiſe to be diſſolved; and then the different matters, namely, the diſſolved bones and ſofter parts, mixed all together, exhibit, when ſuch ſwellings are laid open, a ſtill more confuſed collection than is generally obſerved even in the worſe ſtages of the other ſpecies of the diſorder.

Although it was remarked, that in the early periods of the complaint, the ſurrounding ſoft parts do not always appear to be much affected; yet, in its farther progreſs, they likewiſe are generally brought to ſuffer. The ligaments become thickened,

ened, and the contiguous cellular membrane filled with that viſcid glairy kind of matter we mentioned when ſpeaking of the other ſpecies of the diſorder.

§ 7. *Of the Cauſes of White Swellings of the Joints.*

HAVING thus given a particular account of the different appearances generally obſerved in both ſpecies of white ſwelling, we come now, in courſe, to the conſideration of the different cauſes which tend to produce them: And, to go on in the ſame order with the deſcriptions that have been given, we ſhall firſt enumerate thoſe that are particularly connected with that which we termed the firſt or rheumatic ſpecies of the diſorder.

All ſuch ſtrains may be mentioned as cauſes, as particularly affect the ligaments of the joints, ſo as to produce inflammation; likewiſe bruiſes, luxations of the bones, and in ſhort every derangement which can in any degree be attended with that effect.

A rheumatic diſpoſition, or Diatheſis as it is termed, may here too be taken notice of as a principal cauſe of this ſpecies of white ſwelling; for, in every rheumatic affection, the parts moſt liable to be attacked are the ligaments of the joints, and other deep-ſeated membranes. The diſorders occurring moſt frequently in the large joints, eſpecially in the knee, is a ſtrong argument too for ſuppoſing that the rheumatic diſpoſition has a conſiderable influence in its production; for it is well known, that rheumatiſm, in its moſt evident form, does really more frequently attack the larger joints than any of the ſmaller: And, in fact, we find this ſpecies of white ſwelling occurs more frequently in young plethoric people, in whom the rheumatic diatheſis moſt frequently prevails, than it ever does in thoſe of an oppoſite temperament.

That it is the ligaments of the joints only which are firſt affected in this diſorder, is from the hiſtory of the diſſections rendered evident; theſe, in the firſt ſtages of the complaint, being almoſt the only

parts

parts that are found diſeaſed. The effuſions, into the cellular membrane, of that thick glairy matter we have taken notice of, are probably occaſioned by an exſudation from the veſſels of thoſe ligaments that have been originally inflamed, as it is known that ſuch parts never furniſh a proper fluid for the formation of purulent matter: In the courſe of the diſeaſe, indeed, abſceſſes containing real pus do always appear; but never till inflammation has been communicated to the ſurrounding parts, which more readily afford a fluid proper for this purpoſe.

I would therefore, upon the whole, conclude, that this ſpecies of white ſwelling is at firſt always occaſioned by an inflammatory or rheumatic affection of the ligaments of ſuch joints as it attacks, from whatever cauſe ſuch inflammation may originally have proceeded.

The other ſpecies of the diſorder, from all the ſymptoms enumerated, and from the different appearances on diſſection, ſeems evidently to be originally an affection of the bones; the ſurrounding ſoft parts co-

ming only to ſuffer in the progreſs of the diſeaſe, from their connection with and vicinity to theſe.

This ſpecies of white ſwelling very ſeldom occurs as the conſequence of any external accident. It generally begins without the patient's being in the leaſt able to account for it. From the effects uſually produced on the bones which it attacks, it would appear to be a ſpecies of the real ſpina ventoſa; and which, again, is very probably a diſeaſe of the ſame nature in the bones that ſcrophula is of the ſoft parts. Indeed, the appearances of the two diſorders, after making allowances for their different ſituations, are exceedingly ſimilar: they both begin with conſiderable enlargements or ſwellings of the parts they invade; which afterwards in both, too, generally end in evident ulcerations; and they both likewiſe frequently occur in the ſame perſon, and at the ſame time.

It is likewiſe obſerved, that this ſpecies of white ſwelling is generally either attended with other evident ſymptoms of ſcrophula ſubſiſting at the time; or that the patient

patient in an earlier period of life has been ſubject to that diſeaſe; or, what is nearly the ſame, that he is deſcended from ſcrophulous parents, and conſequently moſt probably has the ſeeds of that diſeaſe lurking in his conſtitution.

From all theſe circumſtances, it may I think with probability be concluded, that this ſpecies of white ſwelling is commonly, if not always, of a ſcrophulous nature: And as it has already been ſhown, that the other ſpecies of the diſorder is to be conſidered as an inflammatory, or what we have termed a Rheumatic, affection; and a thorough diſtinction of the two different ſpecies being, in the treatment, a matter of much importance; it will not here be improper to give a ſhort enumeration of the ſeveral diagnoſtic or moſt characteriſtic ſymptoms of each.

§ 8. *Diagnoſis.*

THE pain in the white ſwelling from a rheumatic diſpoſition, is always, as was formerly remarked, from the beginning, diffuſed over the whole joint, and on ſome

occaſions extends even a conſiderable way along the muſcles that are attached to it: Whereas, in the other ſpecies of the diſorder, the pain is not only always at firſt, but ſometimes even when the complaint has been of conſiderable ſtanding, confined to a very ſmall circumſcribed ſpace.

In the former, the ſwelling is always confined to the ſoft parts, and is from the beginning exceedingly evident: but, in the latter, there is ſeldom for ſome time any perceptible ſwelling; and when it does more ſenſibly appear, the bones are found evidently to be the parts chiefly affected, the ſurrounding teguments coming only to ſuffer on the further progreſs of the diſeaſe.

Theſe are the chief local differences of the two ſpecies of this diſorder; but ſome aſſiſtance in the diſtinction may likewiſe be obtained, from conſidering the general habit of the patient, and the manner in which the complaint may ſeem to have been produced.

Thus, when ſuch ſwellings occur in young, ſtrong, plethoric people, and eſpecially

cially in thoſe who have formerly been ſubject to rheumatiſm; whether they have been the immediate conſequences of external accidents or not, they will moſt probably always prove to be of the mildeſt or rheumatic ſpecies of the diſorder.

Whereas, when ſwellings of this nature appear in ſuch patients as are otherwiſe evidently of ſcrophulous diſpoſitions; where, together with a fine ſkin and delicate complexion, there are either, on examination, found to be hardened glands in the neck, arm pits, or inguina; or it is diſcovered that the patient may be liable to ſuch complaints from inheritance; when either any or all of theſe circumſtances occur, and if the diſorder has begun in the manner formerly deſcribed, without any evident external cauſe, we need be under very little doubt in concluding it to be of a ſcrophulous nature.

The great utility of properly diſtinguiſhing the two different ſpecies of white ſwelling appears in no circumſtance ſo evident as in the treatment: In the one, there is ſome chance, by proper remedies, of being

ſer-

ſerviceable to the patient; whereas in the other, viz. in the ſcrophulous, it is not probable that art will ever be able to afford much aſſiſtance.

SECTION II.

Of the Treatment of White Swellings.

§ 1. *Of the Effects of an Antiphlogiſtic Courſe in the Rheumatic Species of White Swelling.*

IN the rheumatic white ſwelling, as it is always at firſt evidently of an inflammatory nature, conſiderable advantages are commonly obtained by a due attention to a proper antiphlogiſtic courſe.

The firſt remedy which, with this view, ſhould be employed, is blood-letting; but, inſtead of general evacuations from the arm or elſewhere, it proves always more effectual

effectual to take the blood immediately from the part affected. Cupping and ſcarifying is here a principal remedy. The inſtrument ſhould be applied to each ſide of the diſeaſed joint; on each ſide of the rotula, for inſtance, when the knee is the part affected; at leaſt eight or ten ounces of blood ſhould be diſcharged; and this ſhould be repeated at proper intervals, once, twice, or oftener, according to the violence of the ſymptoms and ſtate of the patient's ſtrength at the time.

In the ordinary way of diſcharging only an ounce or two of blood by this operation, it has, in general, very little or no influence; but in the quantities mentioned, which, by thoſe accuſtomed to the practice, are commonly eaſily obtained, it is moſt frequently attended with very conſiderable effects.

It muſt here be obſerved, that cupping is in theſe caſes much ſuperior to the application of leeches; which is not only a more tedious method of procuring the ſame quantity of blood, but the ſwelling occaſioned by the application of any conſiderable

able number of them proves frequently very troubleſome; and, what is often of worſe conſequence, it frequently gives an interruption, for a time, to the uſe of other remedies. In ſome inſtances, however, when the ſwelling of the joint is conſiderable, it proves difficult, or even impracticable, to procure a ſufficient quantity of blood by cupping: In ſuch caſes, we are under the neceſſity of applying leeches, which ſeldom fail of obtaining as much blood as is required.

Upon the anterior part of the joint, where the cupping-glaſſes or leeches have not been placed, a ſmall bliſter ſhould be directly applied; and the part ſhould be kept open with iſſue-ointment, till the wounds from whence the blood was diſcharged are ſo far healed, that a veſicatory may likewiſe be laid on one ſide of the joint; and as ſoon as this is nearly healed, the other ſide ſhould be alſo bliſtered.

By thus alternately applying them, firſt to the one ſide, and then to the other, almoſt a conſtant ſtimulus is kept up; which, in deep ſeated inflammations, ſeems to have

have fully a more powerful influence than all the diſcharge occaſioned by bliſters.

Gentle cooling laxatives, at proper intervals, are here of uſe too: and the patient ſhould, in every reſpect, be kept upon a ſtrict antiphlogiſtic courſe, both as to diet and every other circumſtance: From a due attention to which, with a continuance of the topical treatment already recommended, I have frequently obſerved very conſiderable advantages, more indeed than from any other remedies I had ever an opportunity of uſing in this complaint.

It is in the firſt ſtages only, however, of the diſeaſe, that ſuch a courſe can probably be of much ſervice; and in theſe, I am, from experience, convinced, that it has frequently effected cures in caſes which otherwiſe would probably have proceeded to the laſt ſtages of white ſwelling.

The original inflammatory affection being removed, drains of this kind ſeem to have little or no influence; and ought not now to be long perſiſted in, as they tend to prevent the uſe of other remedies, which,

which, in an advanced ſtate of the diſeaſe, prove commonly more efficacious.

§ 2. *Of the Effects of Mercury, Friction, and other Remedies, in the more advanced Stages of White Swelling.*

THE inflammation being moſtly gone, and while there are yet no appearances of the formation of matter, mercury I have ſometimes known of uſe; not given ſo as to ſalivate, but merely to affect the mouth gently, and to keep it ſomewhat ſore for a few weeks.

The beſt form of uſing mercury, in ſuch caſes, is certainly by way of unction; as it allows, at the ſame time, of the application of friction, which in all ſuch ſwellings may of itſelf in ſome meaſure be conſidered as a remedy. For this purpoſe, an ointment of quickſilver and hog's lard ſhould be prepared; but with ſo ſmall a proportion of the former, that two drachms of the ointment may be ſafely rubbed in, three times a-day. In order to rub in that quantity of the medicine with gentle friction, and ſo as to receive all the advantages that

that attend the practice, an hour at leaſt ſhould be ſpent each time in rubbing; for, however uſeful friction in ſuch caſes may be when properly applied, in the ordinary way of continuing the remedy for a few minutes only, it is not probable it ever can have much influence.

Gentle mercurials, given internally, are here ſometimes of ſervice too; but, as all the advantages to be derived from them in this form are obtained from the unction, together with any benefit that may enſue from the friction uſed in applying it, the latter ſhould certainly be preferred.

By Le Dran, and other French writers, falls of warm water on ſwellings of this nature are much recommended; and there is much reaſon to think, that a long continued and reiterated application of this remedy, may, in the firſt ſtages of theſe complaints, be often attended with very good effects. Of this, indeed, I have now had many opportunities of being convinced; and, from the well-known relaxing property of moiſture when conjoined with heat, there is the greateſt reaſon to imagine,

imagine, that a proper application, eſpecially of warm emollient ſteams, will, if it is ever generally employed, be found to prove more ſerviceable in diſorders of this kind, than perhaps any other remedy.

In the uſe of warm water in caſes of white ſwelling, the friction occaſioned by its fall on the part, independent of every other circumſtance, may probably have a very conſiderable influence: At leaſt this, I think, is the principal effect which cold water can, in this way produce; I have known it frequently uſed, and, on ſome occaſions, with advantage.

By a proper uſe of theſe different applications, namely, of the ſeveral topical remedies in the firſt or inflammatory ſtate of the diſeaſe, and afterwards, but ſtill before the formation of matter, of mercurials, friction, &c. many affections of this nature have been entirely removed: But, in many inſtances, when, either by the uſe of medicines, or by an effort of nature, the ſwelling and pain are almoſt entirely, or even wholly removed, it frequently happens, by the bent poſition in which the limb

limb has for a long time been kept, that the uſe of the joint comes to be entirely loſt, as it often contracts ſuch a degree of ſtiffneſs, that any attempts to move it are commonly attended with very great pain.

Unluckily, in all ſuch caſes, theſe affections of the joints have been conſtantly attributed to one or other of two different cauſes, which are both in their nature incurable; namely, either to the ends of ſuch bones as compoſe the joints having run into one another, ſo as to become firmly conjoined in conſequence of the ſurrounding cartilages being abraded; or to the inſpiſſation, as it is termed, of the ſynovia of the joints, whereby their cavities are ſuppoſed to be entirely filled up, and no ſpace thereby left for the motion of the different bones.

Both of theſe opinions, however, I can, from a great number of facts, aſſert to be, in general at leaſt, very ill-founded; for although, by an abraſion of the cartilages which ſurround the different bones at the joints, an union of their extremities may very readily be occaſioned, and is no doubt on ſome occaſions the cauſe of ſuch affec-

tions; yet, from a variety of diſſections, I am convinced that it is an exceeding rare occurrence, and in caſes of white ſwelling never happens but in the moſt advanced ſtages of the diſorder: the only cauſe almoſt of the ſtiffneſs of the joints, in ſuch caſes, being that contracted ſtate of the flexor tendons, formerly taken notice of in the deſcription; at leaſt in nineteen caſes out of twenty it ſeems to be ſo.

There is nothing indeed more deceiving than the feel on ſuch occaſions; for when the diſorder has been of long duration, the ſtiffneſs and immobility of the joint are generally ſo conſiderable, as, at firſt ſight, to make it ſeem very probable, or almoſt certain, that a real conjunction of the bones had taken place: Many inſtances of this I have known, which had been all along conſidered as real anchyloſes of the worſt kind; but which, on diſſection, were conſtantly found to proceed merely from a contracted ſtate of the flexor muſcles and tendons.

With reſpect to the other opinion, which formerly prevailed ſo univerſally, and which

which is ſtill held by many, that affections of this kind generally proceed from an inſpiſſated ſtate of the ſynovial fluid, it has for ſome time been much doubted by many anatomiſts, whether or not ſuch a ſtate of that fluid ever occurs; and from all the opportunities I have had of diſſecting ſuch diſeaſed joints, I am much convinced, that it either never does take place, or at leaſt that it is an exceeding rare occurrence. For, in every caſe of this kind I have met with, even when the diſeaſe had been of very long continuance, if the capſular ligament of the joint remained undivided, ſo that no matter from the ſurrounding ſoft parts got admittance, and when the ends of the bones were not become carious, the ſynovia always retained its natural colour and conſiſtence: So that it is very probable, the many cauſes of diſeaſed joints, which have been attributed to affections of this fluid, have been more founded on mere hypotheſes, than on facts and experience.

As this ſtiffneſs of the joint, therefore, which to a certain degree always occurs in white ſwellings, proceeds ſeldom or never from either of the cauſes mentioned,

which might probably both be conſidered as incurable, but merely from a preternatural contraction of the muſcles and tendons, we have from this circumſtance great reaſon to expect, that, in many ſituations, a good deal may be done towards its removal. And in fact, there is no doubt but that complaints of this kind, which often remain after every other ſymptom of white ſwelling has diſappeared, may, on many occaſions, be removed, merely by a long continued uſe of emollients: ſeveral inſtances, indeed, of this, I have ſeen, ſome of which had been thought to be of the worſt ſpecies of anchyloſis.

The beſt, and probably the leaſt offenſive, emollient that can be uſed, is pure olive oil applied warm. As much of it as can be eaſily conſumed by an hour's gentle friction, ſhould be regularly rubbed in at leaſt three times a-day: and inſtead of confining the friction entirely to the rigid tendons, which is the common practice, it ſhould be extended over the whole muſcles, even to the inſertions of their other extremities; but more eſpecially on their fleſhy

fleſhy muſcular parts, where the principal cauſe of the continuance of ſuch complaints is probably ſeated; theſe parts being chiefly, if not altogether, poſſeſſed of the contractile, and conſequently of the reſiſting, powers.

I have known uſed, too, in this complaint, as an emollient, and often with advantage, an oil extracted from animal ſubſtances, known by the name of Neats-foot Oil: but as it is more apt to turn rancid than olive oil, it is not ſuch a pleaſant application; and as it is not poſſeſſed of any ſuperior relaxing properties, the other will probably, for that reaſon, be commonly preferred.

The diſorder now under conſideration, namely, a ſtiff joint, is ſo evidently one of thoſe which particularly require the uſe of emollients, that almoſt every old woman has ſome particular form or other of recommending them; one of which I cannot avoid mentioning, as I have frequently known it uſed, and in two caſes particularly, with very evident advantages, viz. the web or omentum of a new-killed ſheep, or of any other animal, to be ap-

plied over all the diſeaſed parts directly on being cut out of the animal.

In the two caſes alluded to, one was in the knee, and the other in the hand; and the motion of the joints, after having been totally loſt, was almoſt perfectly reſtored. The application ſhould be renewed as frequently as poſſible, once a-day at leaſt, or oftener when it can be done: for on being more than four or five hours applied, it becomes diſagreeable; and, after that time, indeed, as it commonly turns ſtiff, it cannot then probably be of much ſervice. The ſame kind of remedy, uſed in ſomewhat a different manner, I find recommended by LIEUTAUD, a celebrated French practitioner *.

I have been the more particular on this part of the ſubject, as I have often thought, that, with a little attention, the uſe of many joints might be recovered, which, from a miſtaken notion concerning their cauſes, have

* Mr Lieutaud ſays, when ſpeaking of ſuch affections, "Obvolvitur etiam pars affecta pelle calida vervecis, vituli, alteriuſve pecudis, recens mactati, vel immittitur in imum ventrem bovis, vitali calore haud defraudatæ." Synopſis Univerſæ Praxeos Medicæ, Vol. I. p. 400.

have generally from the firſt been conſidered as incurable.

The diſorder has hitherto been ſuppoſed not to be ſo far advanced as to have occaſioned the formation of matter; for, when it is come that length, no conſiderable advantages can be expected from any of the remedies we have recommended: but, even in this ſtate of the complaint, if the patient's health does not abſolutely require it, amputation of the member ſhould by no means be performed immediately, as it moſt frequently is. For, by paying attention to open the different abſceſſes ſoon after their formation, the matter may be pretty certainly prevented from affecting, or eſſentially injuring, the capſular ligaments of the joints; the deſtruction of which would no doubt render amputation neceſſary.

By the uſe of the ſeton, as was formerly directed in other caſes of impoſthume, the diſcharge of ſuch collections is certainly and eaſily effected; is never attended with any inconvenience; and has ſometimes been, and may frequently be, a means of ſaving many ſuch diſeaſed joints. At leaſt, when a limb is at ſtake, the prac-

tice recommended is on all occaſions worth trying: and there never, it is probable, can be any well-grounded objection made to it, unleſs the patient's conſtitution be ſo much reduced as to produce much riſk from any farther delay; in which caſe, amputation is, no doubt, to be immediately performed: though, if ſuch abſceſſes as occur be opened ſoon after their firſt formation, there will always be ſufficient time for obſerving what advantages are to be obtained from the diſcharge which is thus produced.

It is neceſſary, however, to remark, that it is in collections of matter only for which we here mean to recommend the uſe of ſetons; for it frequently happens, in rheumatic affections of the larger joints, that effuſions of ſerum take place in very conſiderable quantities; which, merely by the application of moderate friction to the parts affected, are frequently altogether abſorbed. This, however, happens rarely in abſceſſes of real purulent matter: ſo that whenever collections of this nature occur upon a joint, they ought to be diſcharged; and the ſafeſt method of effecting it,

it, is undoubtedly by the introduction of a ſeton.

With reſpect to the moſt proper period of the diſeaſe for amputating limbs diſeaſed in this manner, it may be obſerved, that, even in point of ſucceſs from the operation, it ought never to be adviſed till the complaint is pretty far advanced. For though, *à priori*, it might be imagined, that the more early, in the diſeaſe, amputation of the member is employed, the more ſucceſsful it ſhould prove; and although this, indeed, has been made uſe of as a common argument for amputating very early in every caſe of white ſwelling; yet, however plauſible the obſervation may appear, it will not, from experience, I am perſuaded, be found to hold good. For, in this diſorder eſpecially, I have conſtantly obſerved, that amputation has more frequently ſucceeded, that is, a greater proportion of ſuch patients have recovered from it, who have previouſly been conſiderably reduced by diarrhœas and other weakening ſymptoms, than of ſuch as have ſtill remained in a full plethoric habit of body.

In the former, when the conſtitution has not

not been too much broken, and we have it always in our power to guard againſt its being ſo, the ſeveral ſymptoms of hectic fever, which previouſly took place, are commonly removed in a very few days after the limb is taken off: No high inflammatory affections are ever produced; the patient daily improves in his health; and a complete cure, if he has not been too much reduced, is generally very ſoon obtained. In the latter again, the very reverſe of all theſe circumſtances occurs: The patient, from being in high health at the time of the operation, is generally thrown into a ſmart inflammatory fever; which is, no doubt, very often removed, but which frequently either carries off the patient immediately, or produces ſuch effects as he never thoroughly recovers from.

So that in no caſe whatever is it proper to have recourſe to amputation, until every probable means for ſaving the limb has been tried in vain.

All the means we have hitherto recommended, relate particularly to the rheumatic ſpecies of the diſorder; and when employed in time, and duly perſiſted in, they will fre-

frequently be found of ſervice: but when the diſeaſe is ſo far advanced as to have deſtroyed the capſular ligaments of the joint, and perhaps even the cartilages and bones themſelves, amputation of the member is then no doubt the only reſource.

In the more fatal ſpecies of white ſwelling, namely, the ſcrophulous, as I know no certain remedy for ſcrophula, even in its milder form in the ſoft parts of the body, I cannot here pretend to offer any thing ſatisfactory upon the ſubject.

In the ſmall joints, when the diſeaſed parts of the bone begin to caſt off, a cure may be ſometimes promoted by aſſiſting the efforts of nature; but in all the large joints, particularly in the knee and ancle, it is not probable that any other reſource than amputation will ever afford much relief. And even the effects of this operation can ſeldom be depended on as laſting: for when the general ſcrophulous diſpoſition ſtill ſubſiſts in the conſtitution, the diſorder will moſt probably appear again in ſome other part; which, however, in the advanced ſtages of the diſeaſe, it is ſometimes neceſſary to run the riſk of, the pain being often

often ſo tormenting as to make it more eligible to ſubmit to any hazard rather than to bear it longer.

When, however, for ſome reaſon or other, amputation is determined againſt, by there being almoſt a certainty that the complaint will ſoon return, from the ſcrophulous diſpoſition's appearing very ſtrong in the ſyſtem, it then becomes neceſſary to have recourſe to palliatives, ſo as to render the complaint as tolerable as poſſible; and, with this view, opiates in large doſes, by moderating the pain and procuring reſt, will, in general, be found to be the principal remedy.

In other reſpects, all ſuch medicines and articles of regimen, as are found to prove beneficial in ſcrophula, are adviſable; but for theſe, as it would be foreign to the intention of this treatiſe to enumerate them, a former ſection of the ſecond part of this work, together with ſuch authors as have written more fully on the ſubject, may be conſulted.

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